



ON THIS FARM IS A
SASKATCHEWAN WHEAT POOL
VARIETY TEST

CONDUCTED IN CO-OPERATION WITH THE
UNIVERSITY OF SASKATCHEWAN

Supervisor
MARION D. PHILLIPS

JUNIOR CO-OPERATIVE VARIETY TESTS

(WHEAT, OATS, BARLEY *and* FLAX)

1942

Published by Saskatchewan Co-operative Wheat Producers Limited
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FOREWORD

By the President of the Saskatchewan Co-operative
Wheat Producers, Limited

DURING the past eight years the Saskatchewan Wheat Pool, collaborating with the University of Saskatchewan and the Dominion Experimental Farms and Stations, has conducted province-wide variety testing projects. The data embodied in this report cover the results of the 1942 programme.

At this time when all Canadian farmers are called upon to increase the production of livestock, that part of the report which deals with the comparative yields of wheat, oats, and barely, when considered as feed on the farm, is of particular interest.

The achievements already accomplished by our plant breeders are well known and deeply appreciated by us all, but their work in the interest of agriculture continues. Constantly they are producing new and superior varieties. Some of these new varieties were included in the oat and barley tests, and the information obtained in connection with their comparative behaviour is of considerable value.

Flax rust infection, which in many areas caused considerable losses to susceptible varieties, makes the results of the flax tests of more than ordinary interest, while to many farmers who have only recently included flax in their production plans the comparison of flax and the predominating wheat variety on the basis of cash crops will be particularly welcome.

This work, of course, could not be undertaken without the assistance of our Junior Co-operators, and the success of the 1942 project is due entirely to the time and labour which these young men and women have so freely given in laying out and supervising the individual tests. Our thanks are due and are gladly given to each one of them.

J. H. WESSON.

INTRODUCTION

THE 1942 Variety Testing programme, conducted by the Saskatchewan Wheat Pool, consisted of three parts: a feed yield test, variety tests with wheat, oats and barley, and a flax variety test.

With the call for the production of more beef and bacon, the numbers of cattle and hogs have increased considerably and many farmers are now marketing at least a part of their grain through livestock. The main project was designed to produce information covering the comparative crop yields of wheat, oats, and barley, when considered as feed on the farm. This part of the programme was somewhat similar to the test of last year. In 1941 much valuable data were obtained along these lines, but as the results of one year's tests are inconclusive, the continuance of this type of investigation was necessary in order that the results of 1941 could be confirmed.

The second part of the 1942 programme consisted of variety tests with seven varieties of wheat, oats, or barley.

The third part of the programme was a limited test with flax varieties. In addition to three flax varieties, Thatcher wheat was included in these tests in order that a study could be made of the value of flax and the leading wheat variety when considered as cash crops.

While it is believed that much valuable information has been gathered, it must be remembered that weather conditions in 1942 were distinctly abnormal. More than average rainfall was received in nearly all parts of the province. A number of varieties performed well under these conditions, but varieties which were bred primarily for drought resistance reacted very poorly. In giving consideration to the results it cannot be stressed too strongly that the performance of any variety in 1942 must not be regarded as the average performance in Saskatchewan over any lengthy period.

In so far as the flax tests are concerned, because of flax rust infection, the resistant variety, Royal, proved to be distinctly superior in yield to the other susceptible varieties. Here again, however, the results must not be accepted without consideration being given to conditions which prevailed during the growing season. A succession of heavy frosts during the early part of June caused considerable damage to the young flax plants in a number of areas. In addition to its rust resistance, Royal is more resistant to spring frost than either Bison or Redwing; therefore, the difference between Royal and the two other varieties must not be considered as a difference resulting from rust only, as undoubtedly some of this difference is attributable to the effects of the spring frosts.

TEST LOCATIONS

With only a few exceptions one feed yield test was located in each of the 160 Wheat Pool sub-districts into which the Province is divided. Altogether 148 of these feed yield tests were conducted, and this part of the 1942 programme covered the whole of the grain growing area of Saskatchewan. Whenever possible, a second test was located in each sub-district. This second test was a variety test and included seven varieties of wheat, oats, or barley. Most of the wheat tests were located in the south-west, an area which is pre-eminently suited for wheat growing. Because these wheat tests included two durum varieties, however, a number were located in the areas most suitable for durum production, namely a district surrounding Davidson, and an area reaching south-east and east of Regina to the Manitoba border. Altogether a total of 36 wheat variety tests were conducted.

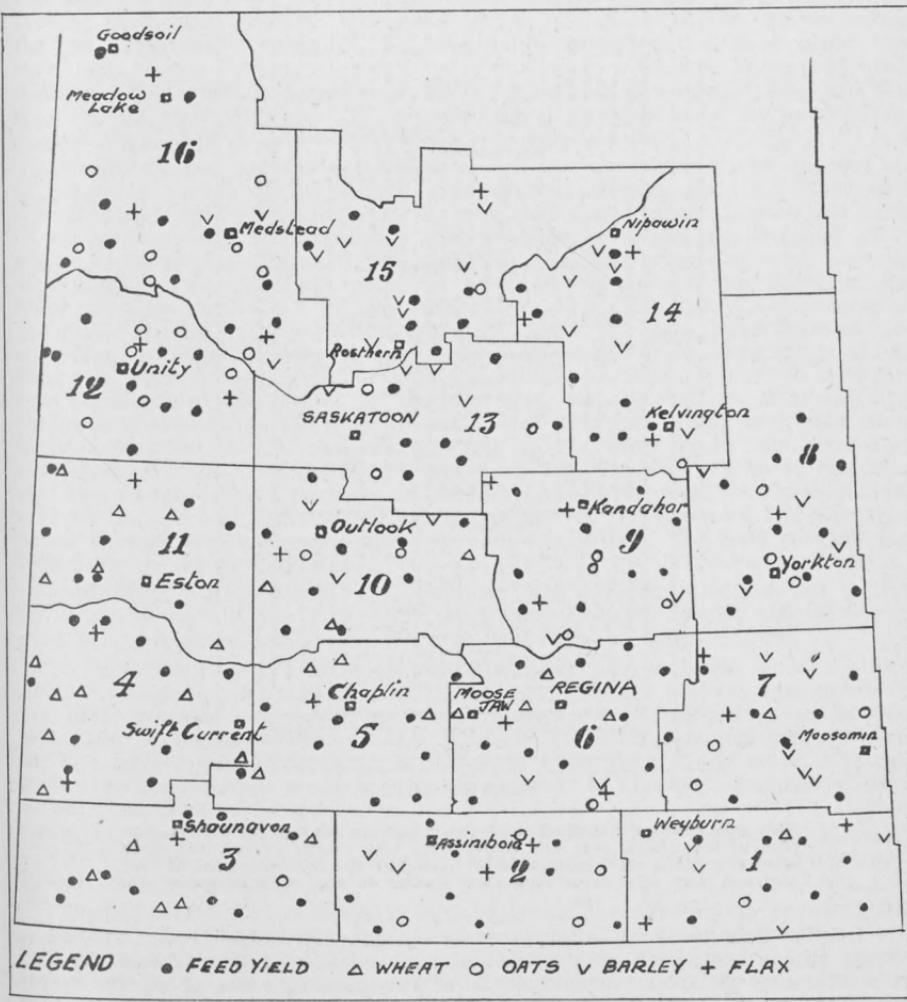
Oat variety tests were located in the south-east, east-centre, a part of the centre, and in the north-west. An effort was made not only to have these tests in the heavy oat producing areas, but also in those regions where

horses are still in general use. In all, this part of the programme consisted of 38 individual tests.

Barley variety tests were conducted in the east, a part of the centre and across the north. The barley project consisted of 42 individual tests.

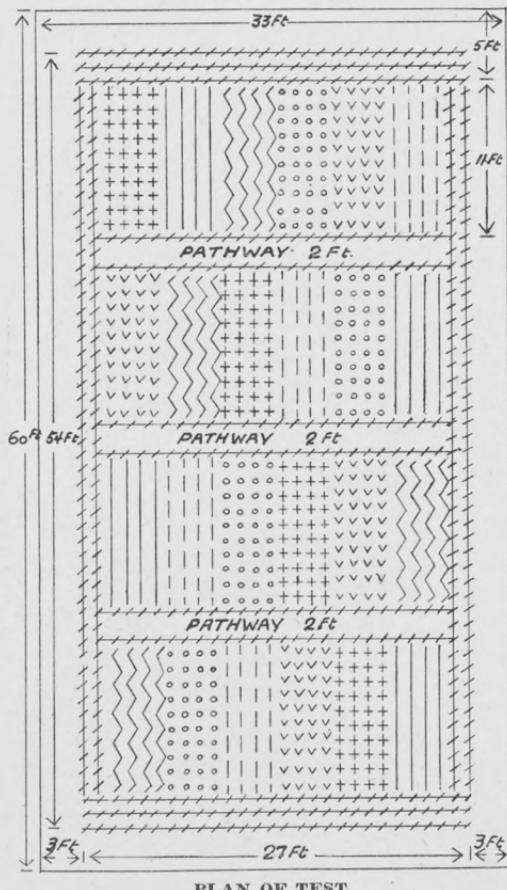
In addition to the above, at least one, and in most cases two tests, with flax varieties, were located in each Wheat Pool District. In these tests three flax varieties were selected for comparison. Thatcher wheat was also included. This enabled a comparison to be made not only between the flax varieties, but also between flax and the leading wheat varieties when considered on the basis of cash crops. There are sixteen Wheat Pool districts in the province, and a total of 27 of these flax-wheat tests were included in the 1942 project.

MAP SHOWING LOCATIONS OF TESTS



DESCRIPTION OF TESTS

Each test was sown on a plot of ground, the size being 33 feet by 60 feet for the feed yield tests, 37 feet by 47 feet for the wheat, oats, and barley tests, and 27 feet by 60 feet for the flax tests. This allowed for 24 plots of four rows each, in the case of the feed yield tests, 21 plots of four rows each in the wheat, oats and barley tests, and 16 plots of four rows each in the case of the flax tests. In all tests, each of the rows was 10 feet long and sown 12 inches apart. Allowance was made in the feed yield tests and wheat, oats, and barley tests, for an outside protection of winter wheat at the ends of each section.



This plan shows the method employed in sowing the feed yield tests. The plan of the wheat, oats and barley tests was similar except that there were only three sections instead of four. The flax test consisted of four sections, and was sown somewhat similar to the plan shown above.

In the flax tests an allowance was made for buffer rows as well as winter wheat protection at the ends of each section. Sown around the tests at a distance of about three feet from the outside rows of winter wheat, two or more drill widths of oats acted as wind protection and sawfly trap. In the case of oat tests, grain other than oats, was used for wind protection. The feed yield tests and flax tests were divided into four sections with a pathway two feet wide between the sections. The wheat, oats and barley tests

were divided into three sections with a pathway two feet wide between the sections. In each of the sections each variety of the different crops under test was represented by one plot of four rows. This arrangement of the test, allowing each variety to be once in each section, is called the Randomized Block Plan.

In all cases the arrangement of sowing the varieties under test made possible close comparison between the different varieties, and the significance of even smaller differences was possible by separately randomizing the plots so that throughout each project the distribution of the varieties differed in each test. The wheat, oats, and barley were sown at a depth of $2\frac{1}{2}$ to 3 inches and the flax was sown at a depth of 1 inch to $1\frac{1}{2}$ inches.

ORGANIZATION AND CO-OPERATION

Carefully selected Junior Co-operators were again appointed to act as test supervisors. A number of these co-operators had some previous experience in this class of work, but many were conducting a test of this nature for the first time. To ensure the success of the project, and in order that each test would be sown exactly in accordance with the prescribed plan, detailed information in connection with laying out and sowing the test was supplied to each co-operator. A coloured plan was also enclosed which showed the distribution of the varieties within the test.

Weighing and assembling the seed for the experiment was carried out in the Head Office of the Wheat Pool organization in Regina. Since each test was separately randomized, it was necessary that care be exercised to ensure that the co-operator would be able to follow the method to be employed in sowing the different varieties. In preparing the seed 264 sets of envelopes were required, each set being stamped with the different row numbers. The names of the varieties were then marked on the envelope according to the randomization for each test. The envelopes were sorted according to varieties, and sufficient seed for each variety was weighed and placed in each envelope. After this the envelopes, plainly marked with the row number and the names of the varieties, were sorted in sets, each set arranged according to the randomization for that particular test, and numbered according to the number allotted to the test. Thus, the first four envelopes, marked 1-4, contained the seed for the four rows of the first variety in each test to be sown in section one. Envelopes 5-8 contained the seed for the second variety in section one and so on, down to the envelopes which showed the last four numbers which contained the seed for the last four rows in the last section.

Sufficient winter wheat ($1\frac{1}{2}$ pounds) was also supplied for the outside protection rows. In the flax tests, sufficient Renown wheat was also supplied for two extra protection rows at the ends of each section.

In addition to the seed, a sufficient number of numbered wooden stakes were supplied to mark each row in the test. Large stakes were used for the inside rows of each plot, and small stakes for the outside rows of each plot. The packages of seed of the different varieties, the necessary stakes, and the winter wheat, were then placed in a cardboard container, the container being numbered according to the number of the test, and mailed with instructions to each co-operator.

Metal signs as supplied in previous years, were not obtainable, but each new co-operator was given a button which signified that he or she was a Wheat Pool Test Supervisor.

During the growing season three reports were required covering the progress of the test. These reports were required to be completed and sent in to Head Office of the Saskatchewan Wheat Pool on June 15, July 15 and at the completion of harvesting. The first report requested information in connection with the date of seeding, soil types, cultural treatment, soil moisture depth, the amount of rainfall from the date of seeding to June 10. Details regarding dates of emergence, uniformity of stand, cut-worm, wire-worm, and grasshopper damage, and also soil drifting damage, were re-

quested in this report. The second progress report asked for information regarding dates of heading, insect damage not mentioned on the first report, details in regard to weed interference, and the percentage of stem, leaf or crown rust appearing on each variety. The final report covering the feed yield tests and the wheat, oats and barley variety tests, asked for information in connection with the height of each row, straw strength, dates when most heads were ripe, the percentage of bird damage, the percentage of shattering, and the date of harvesting. The percentage of stem and leaf rust was also required to be noted on this report. In order that rust infection would be accurately and uniformly reported a scale was also supplied which showed six degrees of infection, computed on the basis of 100 representing the maximum space covered by rust. The final reports covering the flax test requested information in connection with when most bolls were formed, average height of plant, date when most bolls were ripe, damage by wilt, canker, frost and grasshoppers, and date when harvested.

During the growing season the tests were inspected by district representatives of the Wheat Pool organization. Each representative was supplied with report forms and list showing the randomization of the different tests in his district, and copies of the rust scale. These district representatives' reports provided a very valuable independent verification of the reports from the Junior Co-operators.

Before the tests were harvested, further instructions were prepared and sent to the test supervisors. In order that accurate data covering comparative grain plus straw yields could be obtained in the feed yield tests, each supervisor of a feed yield test was instructed to cut each variety at a point three inches from the ground. In the case of the wheat, oats, barley and flax tests, however, only a small amount of straw was required to be retained with the heads. In the instructions special attention was also given to such points as the best time to harvest and how harvesting should be done. Particular care was also requested in curing the crop and in storing it until it was ready to be handed over to the local Wheat Pool Agent for shipment.

After the crop had been harvested, the co-operator was asked to ensure that the sheaves were properly dried and the two centre rows of each of the plots were parcelled separately, together with the stakes identifying them. The parcels were then placed in the required number of gunny sacks and handed to the nearest Pool Elevator agent for shipment to the Head Office of the Saskatchewan Wheat Pool in Regina and special shipping tags were forwarded to each Pool Elevator agent in order that identification could readily be established when the sheaves were received for threshing.

In the case of the feed yield tests, the sheaves from the two centre rows of each variety of the three crops were first weighed separately in order that total yield of grain plus straw could be obtained. (In the case of the wheat, oats, barley and flax tests this procedure was not carried out as information on the comparative grain yield of each variety was all that was desired.) The sheaves from the two centre rows were then threshed separately and the amount of grain weighed, which gave grain yield in grams per plot. The information was entered on a specially prepared threshing report form. This report form enabled a record to be kept of total yield of grain plus straw and grain yield in grams of the two centre rows of all the plots in each feed yield test; and in the case of the wheat, oats, barley and flax tests the total grain yield in grams of the two centre rows of all plots in each test. A column was also provided for remarks in connection with colour, etc. After each test had been threshed the yields from the plots of each variety were placed in one bag and thoroughly mixed in order that a uniform sample of the variety could be obtained. This sample was then cleaned, weighed in pounds per measured bushel and the commercial grade was placed on each variety.

The project was again arranged and supervised by Dr. J. B. Harrington, Professor of Field Husbandry, University of Saskatchewan.

The compiling, summarizing and statistical work was carried out at the Head Office of the Saskatchewan Wheat Pool in Regina.

ANALYSIS OF DATA

In the case of feed yield test, all data were compiled and analyzed by Cereal Variety Zones. These zones are illustrated in the histograms appearing on page 18. Since the results of this testing project were compiled a change has been made in dividing the Soil Climatic Zones into Cereal Variety Zones. In this report, however, the Cereal Variety Zones were used as described below. Because of the limited number of wheat, oats, and barley variety tests it was impossible to analyze these tests in Cereal Variety Zones. Therefore the analyses were made on the basis of Soil Climatic Zones as shown by the heavy continuous lines in the histograms shown on page 18.

Zone	Prevailing Soil Type and Climatic Conditions
1A	Open plains, brown soil, subject to frequent droughts.
1B	Open plains, brown soil, subject to more frequent droughts than 1A.
2A	Open plains, dark brown soil, subject to occasional droughts; more rainfall than 1A.
2B	Open plains, dark brown soil; slightly cooler, drier, and more subject to drought than 2A.
2C	Bench land, dark brown soil; cooler with shorter frost-free season and more precipitation than 2B.
2D	Open plains, dark brown soil, higher elevation and distinctly shorter frost-free season than 2B.
3A	Very dark brown and black soils; park land; more precipitation than 2A.
3B	Park land, deep dark soil, has distinctly shorter frost-free season and less rainfall than 3A, subject to frequent heavy damage from stem rust.
3C	Very dark brown and black soils, park belt; more rainfall than 2B, but less than 2A.
3D	Deep black soil; park area; distinctly shorter frost-free season and more rainfall than 2B.
3E	Very dark brown soil; park region, less precipitation than 3D. Much variation in frost-free season and rainfall.
4A	Mixed grey and degraded black soils; wooded region; short frost-free season like 3B.
4B	Grey soils, wooded area; shorter frost-free season and less rainfall than 4A.

RAINFALL

As the amount of rainfall during the growing season has a far greater influence upon the yields than the amount of the annual precipitation, the rainfall shown in Table No. 1 covers only the months representing the growing period of the wheat in Saskatchewan, during 1942 (April to August). The data was summarized by Wheat Pool Districts.

TABLE No. 1.—This table shows the average number of points reporting in each Wheat Pool District and the average total precipitation in each month April to August, 1942.

AVERAGE TOTAL PRECIPITATION										
Wheat Pool District	April	May	June	July	August					
1	9	1.40	13	1.94	14	3.54	8	2.41	6	3.40
2	18	1.98	23	1.66	20	4.18	12	1.99	5	3.33
3	9	1.44	17	1.49	19	6.24	5	1.03	3	4.24
4	9	.89	10	.61	11	4.51	4	1.45	3	1.63
5	9	2.31	15	.96	19	5.64	5	1.69	3	3.26
6	23	1.17	28	1.01	29	4.79	16	2.96	8	3.82
7	19	1.48	21	1.68	22	3.59	14	2.61	7	6.81
8	13	1.34	19	1.18	16	4.30	7	3.11	5	6.19
9	17	1.91	19	.69	22	5.61	12	3.39	8	2.90
10	22	1.96	16	.57	20	6.67	15	2.80	5	1.97
11	16	1.45	23	.66	28	4.49	16	2.39	3	1.12
12	17	1.43	22	.90	25	3.36	20	3.60	5	1.51
13	13	2.06	18	.60	17	6.52	11	2.34	8	1.09
14	8	1.92	17	.86	11	5.67	10	2.91	5	3.13
15	11	1.88	17	.76	15	5.46	10	2.72	6	2.04
16	17	1.50	18	.61	3	2.79	10	4.10	6	2.11

* No. of stations reporting.

NAMES AND ORIGIN OF VARIETIES IN THE TESTS

Wheat

Apex.—Apex was developed at the University of Saskatchewan, Saskatoon from the composite cross (H.44-24 x Double Cross) x Marquis, the Double Cross being a sister of Thatcher. The strain Sask. 1789 was used in these tests.

Marquis.—Marquis is a descendant of a cross made in 1892 by officials of the Central Experimental Farm, Ottawa, Ontario, between an early ripening wheat, obtained from India under the name of Hard Red Calcutta, and Red Fife. It was isolated in 1903 by the late Sir Charles E. Saunders, then Dominion Cerealist, and was first sent to Western Canada for trial on branch farms in 1907.

Mindum.—Mindum is a high quality durum (macaroni) wheat selected at the Minnesota Agricultural Experiment Station from the common wheat variety Hedgerow. Mindum has brown chaff and awns and amber seed.

Pelissier.—Pelissier is a high quality durum wheat introduced from Algeria by the United States Department of Agriculture. Pelissier has white chaff, black awns and amber seed.

Regent.—Regent was obtained from a cross between H-44-24 and Reward, made at the Dominion Rust Research Laboratory at Winnipeg. The strain 975.6 was used in these tests.

Renown.—Renown was produced at the Dominion Rust Research Laboratory, Winnipeg, Manitoba, from a cross between Reward and the rust-resistant variety H.44-24. The strain R.L. 716.6 was used in these tests.

Thatcher.—Thatcher was produced from a cross made in 1921 at the Minnesota Agricultural Experimental Station, University of Minnesota, St. Paul, Minnesota, between Marquis x Iumillo and Marquis x Kanred. The primary aim was to obtain a wheat of high quality for milling and baking purposes that was resistant to black stem rust and of desirable agronomic type. From one of the original crosses, Marquis x Iumillo, a bread wheat type was obtained with a considerable degree of resistance to stem rust under field conditions. From the Marquis x Kanred cross, a spring wheat was selected of good milling and baking qualities that was immune to several races of black stem rust, and of high yielding ability. Thatcher originated from a cross between these two.

Oats

Ajax.—Ajax was originated by the Dominion Rust Research Laboratory from the cross Victory x Hajira (resistant to stem rust). It has a white seed, is fairly early and is resistant to stem rust, but susceptible to smut.

Banner.—Originally introduced from North Europe. Banner has white kernels, and is moderately susceptible to smut and to stem rust. It has a more slender and slightly longer kernel than Victory.

Exeter.—Originated at the Dominion Rust Research Laboratory from the cross Victory x Rusota. It is a mid late, white seeded variety, resistant to stem rust.

Gopher.—Selected from Sixty-Day Oats at the Minnesota Agricultural Experiment Station. Gopher is fairly early, has white kernels, and is susceptible to smut and stem rust.

Valor.—Valor is a white seeded oat from a cross between the Australian variety Sunrise and Banner. The cross was made at the University of Saskatchewan in 1927 as a part of a program of breeding early drought-resistant oats. Valor is a very early maturing white seeded variety, susceptible to stem rust, and resistant to smut.

Vanguard.—From the cross Hajira x Banner, made by the Dominion Rust Research Laboratory at Winnipeg. Vanguard is a white seeded variety resistant to stem rust and susceptible to smut.

Victory.—Introduced from Sweden many years ago. Victory has white kernels, and is moderately susceptible to smut and stem rust.

Barley

Newal was developed at the University of Alberta from a cross made in 1919 between O.A.C. 21 and a Minnesota hybrid from Manchuria x Lion. It is a nodding, six-rowed, smooth-awned variety with straw-colored kernels. Its disease reactions resemble those of Regal.

O.A.C. 21.—Produced by selection from Manchuria at the Ontario Agricultural College, is the old standard malting barley of Canada. It is a nodding, six-rowed, rough-awned variety with greenish-blue seeds. It is moderately susceptible to rusts, susceptible to loose smut and fairly resistant to covered smut.

Plush—was originated at the Dominion Experiment Station, Brandon, from the cross Lion x Bearer. It is a new, six-rowed, smooth-awned variety with white kernels. It is susceptible to rusts and smuts.

Prospect—is a nodding, six-rowed, smooth-awned white seeded variety developed at the Swift Current Experiment Station from a natural cross in Black Barbless. It resembles Regal in disease reactions.

Regal—was developed by the Field Husbandry Department at the University of Saskatchewan by mass selection from a backcross of Manchuria x Lion on Manchuria made at the Minnesota Experiment Station. (Lion was one of the original smooth-awned barleys brought from Africa to America for breeding purposes). It is a nodding, six-rowed, smooth-awned barley with straw-colored kernels. It is susceptible to leaf and stem rust and moderately susceptible to loose and covered smut.

Rex—was originated by the Field Husbandry Department at the University of Saskatchewan by crossing Velvet, a sister of Regal, with Hannchen. It is a nodding, two-rowed, smooth-awned variety with pale brown kernels. Its disease reactions are similar to those of Regal.

Warrior—is an early maturing hooded, white seeded variety originated by the Field Husbandry Department of the University of Saskatchewan from the cross Trebi x Colsess. It is not resistant to smuts or rusts.

Flax

Bison.—Bison is a highly wilt resistant, rust susceptible variety developed by selection at the North Dakota Agricultural College. It has blue



The Barley Test of Douglas David Wotherspoon, Melville.

blossoms and fairly large brown seeds of high oil content but only fair oil quality.

Redwing.—Redwing is a wilt resistant, moderately rust susceptible variety produced by selection at the Minnesota Agricultural Experiment Station. It has blue blossoms and small brown seeds of high oil quality.

Royal.—Royal is a rust and wilt resistant variety selected at the University of Saskatchewan from the wilt susceptible variety Crown. It has blue blossoms and mid-sized brown seeds. It is similar to Bison in oil quality and yield. Royal excels Bison in spring frost resistance.

GENERAL GROWING CONDITIONS 1942

April.—Retarded by cold wet weather seeding of Saskatchewan's 1942 wheat crop was only 12% completed on May 1st. Heavy rains had fallen during the last week in April. While this rainfall had delayed seeding it was exceedingly welcome, particularly in the centre and west where moisture was badly needed.

May.—During the first week of May only a few scattered showers were reported. At this time temperatures during the days were higher but the nights were cold. Seeding had made good progress and at May 8th, 53% of the wheat had been sown. Generally the seed bed was in good condition, but in the extreme west while there was enough moisture in the summer-fallow to start the crop, other fields were in urgent need of moisture. Unseasonably low temperatures prevailed during May, and light to heavy frosts occurred over the entire province. The lowest temperatures were recorded during the week ending May 15th, when in the east centre the thermometer showed low readings of 16° to 18° F. Although showers had fallen, growth was exceedingly slow and weeds were very prevalent as at May 22nd. Apart from the extreme west, moisture conditions remained relatively satisfactory, but an early rain was needed to maintain the condition of the crops as they appeared at that time. During the last week of May heavy rains fell over most of Saskatchewan. The rains came at an opportune time as the top soil was drying out rapidly and moisture was needed to ensure proper germination of the late sown crops. The rainfall was most abundant in the south-east and east-centre, where the average precipitation for the week was approximately 1.5 inches. Quite good rains were received in other areas, but in parts of the south-west, west centre, north-west, and centre, while some points reported fairly heavy rains, generally only light showers were received. The most unfavourable condition appeared in the area lying west of Swift Current to the Alberta border, where much of the grain had not germinated and moisture was urgently needed. The fall rye crop in this region was suffering severely. Temperatures over the whole province were somewhat higher but generally the weather still remained cool. Snowflurries were reported in the north and frosts had occurred in nearly all areas. A heavy frost was reported in the north-west, and it was feared that oats and barley had suffered some permanent damage. The early flax crop also showed some damage, although it was not expected that the injury would be severe. Because of the continued cold weather growth was slow and higher temperatures were badly needed.

June.—During the first week of June rains in varying amounts were received over the greater part of Saskatchewan. The heaviest rainfall was reported in the south-west, where the week's total precipitation amounted to more than 3 inches. While some rain had fallen in all areas, at this time moisture appeared to be most deficient in the north centre and part of the extreme north-west. In these areas, while little appeared to be actually suffering, unless a good early rain was received the late sown crops would show rapid deterioration. Temperatures remained relatively low, but during the end of the week the weather became warmer. Weeds were thick and in the north-east because of weed growth some of the acreage sown to wheat had been plowed down and resown to barley. Grasshoppers were hatching at scattered points but had not begun to attack the crops. During the early

part of the second week in June the weather was warmer but towards the end of the week the thermometer dropped sharply and freezing temperatures were reported in all parts of the province. Damage to the wheat crop was expected to be light and no extensive injury was expected to the oats and barley. It was feared, however, that the fall rye crop which in some areas was in the blossom stage, would show severe injury. The flax of course had suffered most severely and many of the late fields were expected to be severely damaged. Light to heavy rains had again fallen during the week but the precipitation was again extremely varied. The most abundant rainfall was reported in the extreme north-east. Moisture conditions were now most unsatisfactory in the centre, the west-centre and parts of the north-centre where some of the late fields were showing uneven germination and a good soaking rain was needed to prevent serious declines. Because of the continued cold weather growth was slow and in some areas, particularly in the west-centre, crops appeared to be at least two weeks later than in 1941. Cutworms and wireworms were still active. Grasshoppers continued to hatch at scattered points but no damage was reported. Scattered hail storms had occurred in the south-centre and it was feared that the fall rye which was heading out had suffered some injury. Generous rains fell over Saskatchewan during the week ending June 19 and the precipitation was far more uniform than the rains which had fallen earlier in the season. Moisture was most plentiful in the centre where it was extremely welcome. On the first day of the reporting period freezing temperatures were again reported. Because of the spotty nature of the frosts, the actual damage was still difficult to determine. Undoubtedly gardens suffered most severely. Field crops were also affected but the late flax and the fall rye were the only crops which appeared to suffer any extensive damage. Accompanied by low temperatures, rains in varying amounts again fell over most of the province during the week ending June 26. The heaviest rains fell in parts of the centre and north-centre where the average precipitation for the week was approximately 2 inches. In other areas while many points received heavy rains, the precipitation was not so evenly distributed and in the extreme south-east it was generally of a much lighter nature. Cool weather continued to prevail and light frosts were again reported. The frosts at this time appeared to cause little or no damage but the unseasonably cold weather continued to retard the growth of a crop which was already later than in a normal year. Higher temperatures and sunshine were urgent requirements in all areas. Grasshoppers were quite numerous at a number of points in the south-centre and centre but the cool, wet weather had retarded their movements and little or no damage was reported. Because of weather conditions weeds were becoming even more prevalent. In many areas the flax crop in particular was showing a heavy weed growth and it was feared that this unfavorable feature would have an influence on final returns. A few low lying crops were under water and it was expected that some damage by drowning would occur, but the loss would represent only a small percentage of the total acreage. Scattered hail storms had occurred during the week but damage from this source was negligible.

July.—During the week ending July 3rd, generous rains fell over most of Saskatchewan. The moisture was most plentiful in the south-west, the north-centre and north-east where the rainfall for the week totalled approximately two inches. Quite good rains, although of uneven distribution, fell in nearly all other areas, but in the north-west, while a number of points reported heavy rains, at a few stations little or no moisture was received and at these points an early rain was required to maintain the condition of the crop. In the early part of the week temperatures remained relatively low but towards the end of the period the weather became warmer. In many areas a marked advancement was noted and much of the early wheat was beginning to head out but the continuance of higher temperatures was still a most pressing requirement. Weather conditions during the week ending July 10th were generally ideal. Light showers to heavy rains had fallen in most areas and higher temperatures had prevailed over the whole province.

In some areas hail accompanied the rains and heavy local damage was reported at a number of points, the most extensive injury being in the south-east and south-centre. Some lodging was also reported and it was feared that because of the heavy stand lodging would present a serious problem in harvesting the 1942 crop. During the week ending July 17 light to heavy showers were again received and there were a number of stations where there would appear to be sufficient moisture to bring the crop through to maturity. In other areas a good rain before filling was all that was needed. Only in parts of the south and south-west was moisture insufficient. At a number of points in the south-east and south-centre little appeared to be actually suffering, but an early rain was required to maintain the condition prevailing at this time. In the south-west a number of stations reported the need of early precipitation. The need was particularly urgent for the late sown fields and for the crops on the lighter land. Scattered hail storms were reported during the week, the most serious injury appearing in relatively small areas, one north-west of Regina and the others in the south-centre and west-centre. Temperatures during the week were higher. All crops continued to make good progress but generally it appeared that the season was from eight to ten days later than in a normal year. Apart from the southern areas mentioned above where rain was needed, higher temperatures and sunshine were still the most pressing requirements. Owing to wind and rain many fields, particularly barley, had been beaten down and some were lying quite flat. The most unfavourable factor during the week was the appearance of flax rust infection in the south-east. The early flax was in the blossom stage and the opinion was expressed that unless weather conditions were unfavourable to the development of this plant disease some losses were inevitable. Showers of varying amounts were again reported over Saskatchewan during the week ending July 24th. Moisture was most abundant across the north where the average precipitation for the week ranged from approximately 1 to 1½ inches. Fairly heavy rains also fell in parts of the south-east, south-centre and north-centre. In other areas the precipitation was very uneven and consisted of light to fairly heavy showers while in the south-west it was generally of a very light nature. At the beginning of the week the weather was relatively cool but towards the middle of the period higher temperatures prevailed and official readings of 90°F. were recorded at a number of points. A continuance of warmer weather was still an urgent need. Moisture deficiency had caused some deterioration in the south-west but the most unfavourable features during the week had been the appearance of leaf rust infection on the wheat and barley and the rapid spread of flax rust infection. As Thatcher wheat, which was estimated to constitute approximately 62% of the total wheat acreage, is susceptible to leaf rust infection some loss in both yield and quality was expected. Flax rust infection was now general in practically the entire south-east and much of the south-centre. In many areas the infection was heavy. The variety Royal showed little infection but it was feared that at least some fields of the susceptible varieties, Bison and Red-wing, would suffer severely. Scattered hail storms had again occurred. In a few areas some rather heavy local damage was reported but in general losses were not excessive. Wind and continuous rains were resulting in further lodging and because of the soft nature of the straw, the heavy barley crop was badly lodged and in the north particularly it was feared that unless more favourable weather conditions prevailed quite heavy losses would result. Light to heavy rains were again reported during the last week of July. Showers had been received in the south-west and an improvement in crop prospects was noted. Although the weather had been warmer on one or two days, over most of the week temperatures remained relatively low. Scattered hail storms had again occurred. Rather extensive local damage had occurred at scattered points but taking the province as a whole injury was not of a serious nature. A heavy leaf rust infection was reported throughout all areas. Thatcher wheat was most affected but the infection appeared on all other wheat varieties and on the barley crop. In general, however, it appeared that filling was more or less satisfactory. Flax rust was also re-

ported throughout practically the whole of Saskatchewan. Many of the early fields had well-filled bolls and these fields were expected to show relatively little damage but it was feared that the late fields, many of which were heavily infected, would suffer serious injury. Higher temperatures to arrest the flax rust infection and to assist in the more rapid development of all crops were still the most pressing requirement.

August.—Temperatures during the first week of August were somewhat higher. Readings of 84° F. were recorded in many areas and in general all crops appeared to be making good progress, but, although temperatures during the day were higher, the nights were cool and in the west-centre and south-centre some frost was reported. Heavy rains had fallen in parts of the south-east and east-centre. In other areas while heavy rains had been received at isolated points generally the precipitation consisted of light scattered showers. Many points reported that no more rain was needed to bring the crop through to maturity without loss in condition and a continuance of warm dry weather was the most pressing need. At some points, however, another rain was required in from seven to ten days to ensure proper filling of the late sown crops. This was particularly true of the south-west where at some stations the need for early moisture was again reported. Warmer weather again prevailed during the week ending August 14th, but towards the end of the period temperatures became lower and light to heavy rains fell over practically the entire province. The rainfall was particularly heavy in parts of the south-east and east-centre where at some points the precipitation for 48 hours totalled approximately 5½ inches. At a number of stations in these regions high winds accompanied the rains and much of the grain was beaten down. A considerable amount of the acreage was under water and some losses were inevitable. Until operations were interrupted by the rains harvesting of the fall rye crop was fairly general. Some of the early oats and barley had also been cut but only in the extreme south had a few fields of early wheat been harvested. While much depended upon weather conditions in the immediate future, taking the province as a whole it appeared that cutting would not be general until August 24th to September 1st. Leaf rust infection appeared not only to have reduced the number of kernels in the heads of the wheat plant, but also to have arrested development. Because of the lateness of the season the latter factor was an important one. Damage by flax rust infection was becoming more apparent in many areas and it was significant that flax was the only crop which showed a decline in condition, the figure which indicated the condition of the flax having dropped six points during the week. At this time grasshoppers were becoming more numerous in parts of the south-centre, centre and west-centre. While damage was not severe, at some points these pests were attacking the oats and flax and it was feared that their depredations would increase should higher temperatures prevail. Sawfly infestation was reported over a considerable part of the province. Much of the wheat crop was still more or less green and little damage was noticeable but it was expected that as the season advanced the activities of the sawfly larvae would become more apparent. Because of the continued rains lodging was increasing. The heavy barley crop was, of course, most affected and it was evident that in many areas harvesting would be extremely difficult. At some points, because of lodging and a heavy rust infection, losses in both yield and grades were expected to be quite heavy. Throughout most of the week ending August 21st warmer weather again prevailed and in a number of areas it was reported that harvesting operations would be somewhat earlier than previously expected. Cutting of the barley crop was fairly general in the south and centre and in a number of areas a small percentage of the early wheat and oats had also been cut. Towards the end of the reporting week, however, showers caused a suspension in harvesting operations but it was expected that providing weather conditions were favourable cutting would be more or less general during the week of August 24th and in many regions combining would begin about September 1st. At this time 2.7% of the wheat and 13% of the coarse grains had been cut. (At the corresponding date in 1941, after high temperatures and inadequate moisture

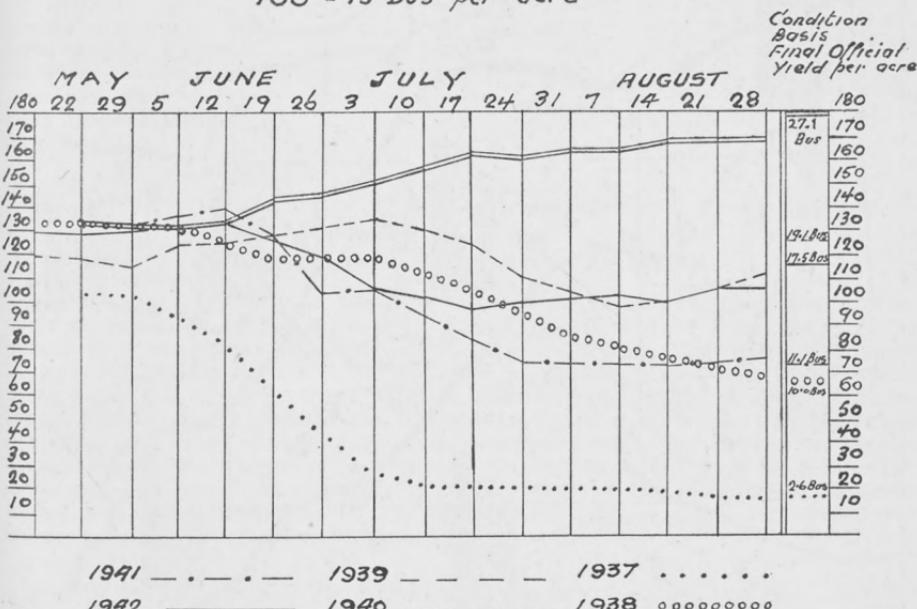
had caused a considerable amount of premature ripening, 73% of the wheat and 63% of the coarse grains had been cut and 18% of the wheat had been threshed.) While in a few areas shrunken kernels were in evidence, in general, despite the heavy leaf rust infection the **wheat crop** appeared to be filling in a satisfactory manner and the outlook for good yields was exceedingly bright. Although lodging was reported particularly in the northern regions and in some areas grasshoppers were attacking the **oat crop**, generally taking the province as a whole, this crop was also an exceedingly good one and excellent yields were in prospect. Lodging of the **barley crop** had been particularly severe. This unfavourable feature combined with rust infection was expected to cause some reduction both in yields and grades but returns from the early threshed fields appeared to be at least equal to previous expectations and this crop was also expected to be a heavy one. Rust infection which had attacked the **flax crop** over practically the entire province had undoubtedly resulted in some serious losses. The late sown fields, with the exception of those sown to Royal, which appeared to be successfully resisting the rust attack, were expected to show serious losses. The extent of the losses would, of course, only be known when threshing returns were available. At this time, however, it seemed that the infection had made no serious in-roads during the week and in a number of areas it was suggested that while some losses had occurred it was considered that damage would not be severe as previously expected. The returns of the **fall rye crop** varied considerably. In the south-west inadequate moisture early in the growing season caused serious deterioration while in the south-east and east-centre many of the rye fields were damaged by frost during the blossoming period. Nevertheless taking the province as a whole the estimated yield per acre of all rye (fall and spring) was 18.2 bushels. On August 27 only between 6 and 7 per cent. of the wheat had been cut and less than half of one per cent. had been threshed. On the evening of this date a heavy wind and rain storm swept across the province and left a considerable amount of damage in its wake. Hail accompanied the rain in a number of areas and at scattered points heavy losses by hail were reported. In other areas where little or no hail was reported many fields were completely flattened by rain and wind while others were so badly lodged that harvesting operations would be only carried out with considerable difficulty. The full fury of the storm appeared to have been felt in the south-central areas where considerable havoc was caused. At this time it was impossible to estimate the extent of the injury, but undoubtedly in some areas severe losses both in yields and grades could be expected. With threshing barely started and the uncertainty of the weather conditions during the balance of the season it was, of course, impossible to estimate production with any certainty. A shortage of labour was evident in many areas and it was certain that the harvesting season would be a prolonged one. It was expected that much of the crop would be swathed and the continuance of unfavourable weather, insufficient harvest help, further losses by pests and hail, and the effects of frost damage would undoubtedly influence the final outcome to a considerable degree. Nevertheless, in general, while much depended upon weather conditions in the immediate future, excellent returns were still possible. This was reflected by the preliminary estimates of wheat, oats, and barley, which set an all-time production record for the province.

To conclude it may be said that two of the most unusual features in connection with the 1942 wheat crop was the steady improvement which occurred throughout practically the entire growing season and the fact that there were no large areas in the province where the estimated yield fell under 15 to 18 bushels per acre. Only during the week ending July 24th, when because of moisture deficiency in the south-west, did the figure which indicated the condition of the wheat crop show a decline and this week it fell only two points. As mentioned above, there was no large area where yields were expected to fall below 15 to 18 bushels and the only regions of consequence where the yield fell within the 15 to 18 bushels category were in parts of the north-west and south-west in close proximity

to the Alberta border. Unfortunately, weather conditions were extremely unfavourable during the entire harvesting period, and although every effort was made to garner the crop, at the time operations were suspended approximately 10% of the wheat and a slightly higher percentage of the coarse grains still remained unthreshed. Despite the fact that because of the adverse weather conditions some losses occurred and grades were decidedly lowered, Saskatchewan's grain production in 1942 showed again that with ample rainfall crops in abundance can be produced. The chart which appears on this page illustrates in graphic manner the productivity of the soil in years when ample moisture is received.

**GRAPH SHOWING WEEKLY TREND OF SASKATCHEWAN
WHEAT CROP—1937-1942**

100 = 15 Bus per acre



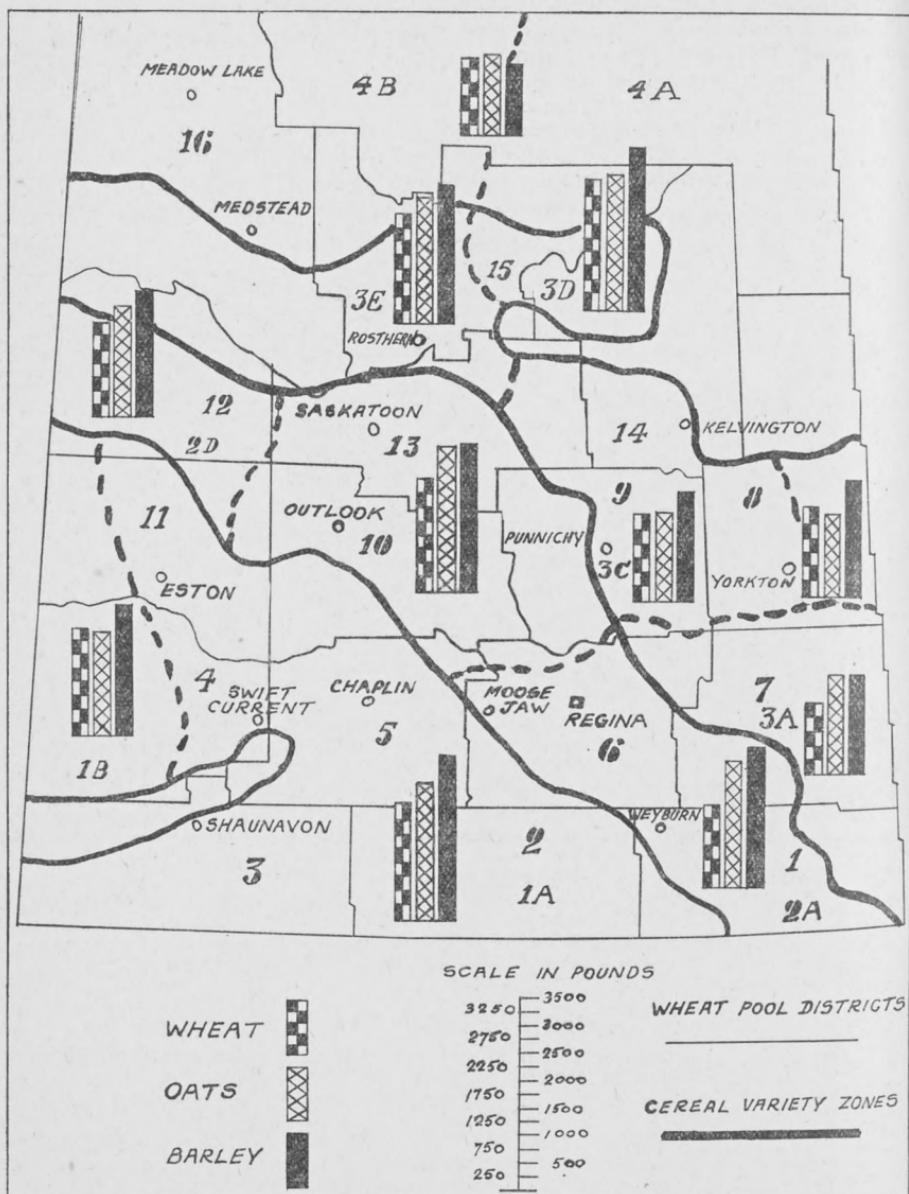
(This graph shows the condition of the Saskatchewan wheat crop as it appeared each week during the growing season—1937-1942. The final official yield per acre is shown in last column.)

FEED YIELD TEST

**TABLE NO. 2.—AVERAGE YIELD GRAIN PLUS STRAW IN POUNDS PER ACRE
SUMMARIZED IN CEREAL VARIETY ZONES**

Zone	No. of Satisfactory Tests	Wheat	Oats	Barley
1A	24	5,730	5,843	6,594
1B	8	5,013	4,826	5,574
2A	6	4,519	6,063	6,178
2B	11	5,367	6,131	6,024
2D	7	4,402	4,581	4,949
3A	8	4,140	5,316	5,270
3B	4	4,316	3,359	4,648
3C	5	5,663	5,821	5,429
3D	2	6,662	6,259	7,661
3E	7	5,654	6,331	6,647
4A}	2	3,533	3,400	3,066
4B}				

HISTOGRAMS SHOWING GRAIN YIELD IN POUNDS PER ACRE
WHEAT, OATS AND BARLEY



YIELD GRAIN PLUS STRAW IN POUNDS PER ACRE

Table No. 2 shows the average yield of grain plus straw in pounds per acre. This table is arranged in Cereal Variety Zones, and it will be observed that in seven out of the thirteen zones barley ranked first in gross yield. In zones 2B and 3A, however, oats exceeded barley and in zone 3C and the combined zones 4A and 4B, barley was outyielded by both wheat and oats. In zones 2B, 3A, and 3C oats excelled. In the other zones with the excep-

tions of 1B, 3B and 3D where it was exceeded by both wheat and barley, oats ranked second to barley. Only in the combined zones 4A and 4B did wheat excel, and in six zones it was out-yielded by both oats and barley. Taking the tests as a whole, barley yielded 390 pounds (7%) over oats and oats were 374 pounds over wheat.

TABLE NO. 3—AVERAGE GRAIN YIELD IN POUNDS PER ACRE
SUMMARIZED IN CEREAL VARIETY ZONES

Zone	Wheat	Oats	Barley	Necessary Difference In Pounds
1A	2,155	2,504	3,017	155
1B	1,954	1,915	2,408	160
2A	1,510	2,369	2,562	358
2B	2,065	2,689	2,706	342
2D	1,728	2,003	2,299	357
3A	1,295	1,836	1,834	345
3B	1,644	1,525	2,128	330
3C	1,604	1,637	1,999	*
3D	2,405	2,445	2,991	*
3E	1,977	2,334	2,586	362
4A}	1,370	1,429	1,271	*
4B}				

* No significant differences between crops.

YIELD GRAIN IN POUNDS PER ACRE

Table No. 3 shows the average yield of grain in pounds per acre. The table is arranged in cereal variety zones, and it will be observed that in nearly all zones barley outyielded both oats and wheat. The exceptions were in zone 3A, where oats and barley were practically equal and in the combined zones 4A and 4B where oats exceeded barley by 158 pounds. Only in two zones did wheat exceed oats. These were in zone 1B where the difference between these crops was only 39 pounds and in zone 3B where the difference was 119 pounds. Taking the tests as a whole, barley yielded 14% over oats, and oats outyielded wheat by 19%. Most of the differences between barley and wheat and some of the differences between oats and wheat and between barley and oats were highly significant.

TABLE NO. 4.—AVERAGE YIELD, GRAIN MINUS HULLS, IN POUNDS PER ACRE
SUMMARIZED IN CEREAL VARIETY ZONES

Zone	Wheat	Oats	Barley
1A	2,155	1,816	2,655
1B	1,954	1,466	2,119
2A	1,510	1,712	2,255
2B	2,065	1,945	2,381
2D	1,728	1,446	2,023
3A	1,295	1,312	1,614
3B	1,644	1,101	1,868
3C	1,604	1,182	1,760
3D	2,405	1,755	2,632
3E	1,977	1,683	2,340
4A}	1,370	1,022	1,119
4B}			

YIELD GRAIN MINUS HULLS IN POUNDS PER ACRE

For use as feed on the farm the most useful yield comparisons are those which are made on a hull free basis. Table No. 4 shows the average yield in pounds per acre of wheat, oats, and barley, after making allowance for the hulls of oats and barley. In adjusting grain yields to kernel yields,

the percentage of hulls was based on arbitrary figures as follows: Valor Oats (a fairly thin hulled variety) 25%; Victory Oats 30%, Newal and Rex Barley 12%. From the table it will be observed that with one exception barley excelled in all zones. The exception was in the combined zones 4A and 4B, where wheat exceeded barley by 251 pounds (22%). In eight of the remaining ten zones wheat ranked second to barley. Oats failed to yield more than barley in any zone, and only in zones 2A and 3A did it exceed wheat. Taking the test as a whole a comparison of the average kernel yield of the three crops shows that barley was 363 pounds (20%) over wheat, and wheat was 260 pounds (16%) over oats.

TABLE NO. 5.—AVERAGE YIELD OF STRAW IN POUNDS PER ACRE
SUMMARIZED IN CEREAL VARIETY ZONES

Zone	Wheat	Oats	Barley
1A	3,575	3,339	3,577
1B	3,059	2,911	3,166
2A	3,009	3,694	3,616
2B	3,302	3,442	3,318
2D	2,674	2,578	2,650
3A	2,845	3,480	3,436
3B	2,672	1,834	2,520
3C	4,059	4,184	3,430
3D	4,257	3,814	4,670
3E	3,677	3,997	4,061
4A}	2,163	1,971	1,795
4B}			

STRAW YIELD IN POUNDS PER ACRE

In table No. 5 is shown the average yield of straw in pounds per acre. At it will be observed, there was considerable variation between the three crops in the different zones. In general, however, barley showed slightly more straw yield than oats, and oats yielded slightly more than wheat. Taking the test as a whole a comparison of the three crops showed that barley was over oats by 80 pounds (2%) and oats exceeded wheat by 25 pounds (.8%).



John Leslie Muir, Yorkton, taking notes on his Oat Test.

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

In analyzing the grain yield results calculations were made on the yield data obtained within each zone to determine the "necessary difference" required between crops for odds of at least 19:1 that one crop yielded, under the conditions of the tests and irrespective of soil variability, more than another. It should, however, be mentioned that in nearly all zones the crops differed in their excellence depending on rainfall and other environmental conditions. A careful study was made to ascertain the advisability of splitting the zones for the purpose of analyzing zone sub-divisions but this was not considered feasible. It must be stressed, therefore, that in analyzing the grain yield results in the report the averages of all tests in each zone were taken as the basic performance.

TABLE NO. 6.—SUMMARIZED RESULTS FOR ZONE 1A

	Wheat	Oats	Barley
Average yield grain plus straw in lbs. per acre.....	5,730	5,843	6,594
Average grain yield in lbs. per acre.....	2,155	2,504	3,017
Average grain yield minus hulls in lbs. per acre.....	2,155	1,816	2,655
Straw yield in lbs. per acre.....	3,575	3,339	3,577
Bushel weight in lbs.	62.3	39.8	51.3
Necessary grain yield difference in lbs. per acre—155.			

Cereal Variety Zone 1A

Summarized results for zone 1A are shown in Table No. 6. In total yield of grain plus straw barley exceeded oats by approximately 13% while oats exceeded wheat by 2%. In grain yield only, barley also exceeded oats and wheat by 513 pounds (20%) and 862 pounds (40%) respectively. When grain minus hulls is considered barley exceeded wheat by 500 pounds (23%) and oats by 839 pounds (46%). In straw yields only wheat and barley were practically equal, each yielding approximately 238 pounds (7%) more than oats. These results indicate that barley made decidedly the best showing for use as feed on the farm. While wheat exceeded oats in kernel yield the greater usefulness of oat straw would partially offset this advantage if the straw was needed. On the other hand oats are not especially desirable for hog feeding and on a farm where both cattle and hogs are to be fed, barley and wheat would appear to be most useful.

TABLE NO. 7.—SUMMARIZED RESULTS FOR ZONE 1B

	Wheat	Oats	Barley
Average yield grain plus straw in lbs. per acre.....	5,013	4,826	5,574
Average grain yield in lbs. per acre.....	1,954	1,915	2,408
Average grain yield in lbs. per acre (minus hulls).....	1,954	1,466	2,119
Average straw yield in lbs. per acre.....	3,059	2,911	3,166
Bushel weight in lbs.	62.7	39.0	50.1
Necessary grain yield difference in pounds per acre—160.			

Cereal Variety Zone 1B

Table No. 7 shows the summarized results for zone 1B. In yield of grain plus straw barley exceeded wheat by 561 pounds (11%) while wheat out-yielded oats by 187 pounds or 4%. In grain yield, barley excelled wheat and oats by 454 pounds (23%) and 493 pounds (26%) respectively. In kernel yield, barley again exceeded wheat and oats, being 165 pounds (9%) above wheat and 653 pounds (44%) above oats. In straw yield only barley also exceeded wheat and oats by 107 pounds (3%) and 255 pounds (9%) respectively. Barley exceeded both wheat and oats in kernel yield, while

wheat exceeded oats. Oats were decidedly low in both grain and kernel yield. The oat straw would, of course, be more useful than wheat straw for feed purposes, but it must be remembered that oats are less suitable for hog feeding and would only be used where the straw is needed. According to the results of this zone barley and wheat made the best showing for use on a farm where both cattle and hogs are being fed.

TABLE NO. 8.—SUMMARIZED RESULTS FOR ZONE 2A

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	4,519	6,063	6,178
Average grain yield in pounds per acre.....	1,510	2,369	2,562
Average grain yield in pounds per acre (minus hulls).....	1,510	1,712	2,255
Average straw yield in pounds per acre.....	3,009	3,694	3,616
Bushel weight in pounds.....	58.4	38.5	48.4
Necessary grain yield difference in pounds per acre—358.			

Cereal Variety Zone 2A

Table No. 8 shows the results for zone 2A. Barley excelled in total yield but it exceeded oats by only 115 pounds. Wheat was decidedly low, being outyielded by barley and oats by approximately 37%. In grain yield barley again excelled, although in the case of oats the difference between these two crops was only 193 pounds (8%). Both barley and oats, however, outyielded wheat by differences of 1052 pounds (70%) and 859 pounds (57%) respectively. When kernel yield is considered, wheat of course gains considerably in its relationship to barley and oats, but it is still decidedly outyielded by both of these crops. In straw yield only little difference appeared between barley and oats, these crops outyielding wheat by approximately 20%. In gross yield, grain yield, and kernel yield, barley excelled. It was only slightly below oats in straw yield, and, according to the results of this test, barley was decidedly the best crop for general use as feed on the farm. Oats also made a distinctly good showing in this zone, but it must be remembered that the cool, wet weather conditions of 1942 were distinctly favourable for the later oat varieties. The performance of this crop could hardly be considered typical of its average performance over a period of years.

TABLE NO. 9.—SUMMARIZED RESULTS FOR ZONE 2B

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	5,387	6,131	6,024
Average grain yield in pounds per acre.....	2,065	2,689	2,706
Average grain yield minus hulls in pounds per acre.....	2,065	1,945	2,381
Average straw yield in pounds per acre.....	3,302	3,442	3,318
Average bushel weight in pounds.....	62.3	38.7	50.7
Necessary grain yield difference in pounds per acre—342.			

Cereal Variety Zone 2B

Table No. 9 shows the summarized results for zone 2B. In yield of grain plus straw oats exceeded barley by 107 pounds or 1.8% while both of these crops outyielded wheat by differences of 764 pounds (14%) and 657 pounds (12%) respectively. When grain yield is considered barley excelled. The difference between barley and oats was only 17 pounds (.7%), but barley and oats outyielded wheat by 641 pounds (31%) and 624 pounds (30%) respectively. For feed on the farm, however, the kernel yield of the three crops is most important and a study of the grain yield minus hulls shows that barley yielded 15% over wheat and barley and wheat exceeded oats by 22% and 6% respectively. In straw yield only oats was approximately 4% over barley or wheat. The results for this zone show that for general use as feed on the farm, barley excelled. In kernel yield wheat was slightly

higher than oats and this advantage would be offset by the greater usefulness of oat straw if the straw was needed. On the other hand as we have already pointed out, oats are of minor use in hog feeding, and on a farm where both cattle and hogs are being fed it would appear that barley and wheat were more suitable. Oats would only be used if the straw was needed.

TABLE NO. 10.—SUMMARIZED RESULTS FOR ZONE 2D

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	4,402	4,581	4,949
Average grain yield in pounds per acre.....	1,728	2,003	2,299
Average grain yield minus hulls in pounds per acre.....	1,728	1,446	2,023
Average straw yield in pounds per acre.....	2,674	2,578	2,650
Bushel weight in pounds	62.8	40.3	52.3
Necessary grain yield difference in pounds per acre—357.			

Cereal Variety Zone 2D

The results of zone 2D appear in Table No. 10. A study of the results in this zone shows that in total yield barley excelled, outyielding oats by 368 pounds (8%) and wheat by 547 pounds (12%). In grain yield barley was again high, outyielding oats and wheat by 296 pounds (14%) and 571 pounds (33%) respectively. A comparison of kernel yields shows that barley exceeded wheat by 295 pounds (17%), but wheat exceeded oats by 19%. In straw yield only there was little difference between wheat and barley, both of these crops exceeding oats by approximately 100 pounds per acre. In total yield, grain yield and in kernel yield barley excelled and the results show that in this test barley was the most valuable crop for feed on the farm. In total yield and in grain yield oats exceeded wheat, but in kernel yield wheat outyielded oats by 19%. While the inferiority of oats in kernel yield would be partially offset by the greater usefulness of oat straw, it must be remembered that oats are of less use than barley or wheat in hog feeding. These results suggest that barley and wheat are most suitable for use where both cattle and hogs are to be fed.

TABLE NO. 11.—SUMMARIZED RESULTS FOR ZONE 3A

	Wheat	Oats	Barley
Average yield grain plus straw in lbs. per acre.....	4,140	5,316	5,270
Average grain yield in lbs. per acre.....	1,295	1,836	1,834
Average grain yield minus hulls in lbs. per acre.....	1,295	1,312	1,614
Average straw yield in lbs. per acre.....	2,845	3,480	3,436
Bushel weight in lbs.....	57.6	37.0	47.5
Necessary grain yield difference in lbs. per acre—345.			

Cereal Variety Zone 3A

Table No. 11 shows the summarized result of zone 3A. In yield grain plus straw oats excelled. The difference between oats and barley, however, was negligible, being only 46 pounds, but these crops exceeded wheat by approximately 1,176 pounds (27%). In grain yield oats and barley were practically equal, and both of these crops outyielded wheat by approximately 541 pounds (42%). Considering kernel yield barley exceeded oats by 302 pounds (23%). Wheat was exceeded by barley by a difference of 319 pounds (25%), and by oats by 17 pounds (1%). In straw yield only, oats was only 44 pounds over barley. Wheat was decidedly low in straw yield, yielding 635 pounds less than oats, and 591 pounds less than barley. These results show that barley was decidedly the best crop for feed purposes, particularly if the straw is needed and a smooth-awned variety is used. Wheat ranks next in importance for hogs but for cattle feeding, oats, with its much larger amount of straw, would be preferable.

TABLE NO. 12.—SUMMARIZED RESULTS FOR ZONE 3B

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	4,316	3,359	4,648
Average grain yield in pounds per acre.....	1,644	1,525	2,128
Average grain yield in pounds per acre (minus hulls).....	1,644	1,101	1,868
Average straw yield in pounds per acre.....	2,672	1,834	2,520
Bushel weight in pounds.....	61.3	35.6	48.9
Necessary grain yield difference in pounds per acre—330.			

Cereal Variety Zone 3B

Table No. 12 shows the summarized results of zone 3B. In total yield barley exceeded wheat by 332 pounds (8%) and oats by 1289 pounds (38%). In this comparison wheat yielded 957 pounds (28%) more than oats. When grain yield is considered, barley was 484 pounds (30%) over wheat and 603 pounds (39%) over oats. Wheat exceeded oats by a difference of 119 pounds (7%). Considering grain minus hulls, barley yielded 224 pounds (14%) more than wheat, while barley and wheat outyielded oats by 767 pounds (70%) and 543 pounds (48%) respectively. In straw yield only wheat excelled, but it exceeded barley by only 152 pounds (6%). Oats were decidedly low in straw yield, yielding 686 pounds less than barley and 838 pounds less than wheat. The results indicate that barley was the best crop for feed purposes, and its advantage would be enhanced if the straw was needed, and, as in the case of the two varieties used in this test, a smooth awned variety was grown. Even the greater usefulness of oat straw would not compensate for its grain yield inferiority to wheat. This, coupled with the fact that oats are less desirable for hog feeding, indicate very clearly that barley and wheat are the most suitable crops for use on a farm where both cattle and hogs are being fed.

TABLE NO. 13.—SUMMARIZED RESULTS FOR ZONE 3C

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	5,663	5,821	5,429
Average grain yield in pounds per acre.....	1,604	1,637	1,999
Average grain yield minus hulls in pounds per acre.....	1,604	1,182	1,760
Average straw yield in pounds per acre.....	4,059	4,184	3,430
Average bushel weight in pounds.....	59.6	36.2	48.1
No significant grain yield difference between crops.			

Cereal Variety Zone 3C

The results of zone 3C are shown in Table No. 13. In gross yield oats excelled, outyielding wheat by 158 pounds (3%) and barley by 392 pounds (7%) respectively. In grain yield, however, oats ranked second to barley, the latter crop outyielding both oats and wheat by 362 pounds (22%) and 395 pounds (25%) respectively. Considering the grain minus hulls, barley also excelled, outyielding wheat by 156 pounds (10%) and oats by 578 pounds (49%). In straw yield only oats were above wheat, and both of these crops exceeded barley. Barley excelled in grain yield and in kernel yield and for general use as feed on the farm its performance in this test was decidedly better than the other crops. While oats slightly exceeded wheat in grain yield, when yield minus hulls is considered, wheat was 422 pounds (36%) over oats. The superiority of the oat straw to wheat straw for feed purposes would offset this advantage to some extent. On the other hand, as oats are of minor value in hog feeding, on a farm with both cattle and hogs, barley and wheat are shown to be the most useful crop for general feed purposes.

TABLE NO. 14.—SUMMARIZED RESULTS FOR ZONE 3D

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	6,662	6,259	7,661
Average grain yield in pounds per acre.....	2,405	2,445	2,991
Average grain yield minus hulls in pounds per acre.....	2,405	1,755	2,632
Average straw yield in pounds per acre.....	4,257	3,814	4,670
Bushel weight in pounds.....	60.5	37.6	49.7
No significant grain yield difference between crops.			

Cereal Variety Zone 3D

Table No. 14 shows the results for zone 3D. In yield grain plus straw barley excelled, yielding 999 pounds (15%) over wheat and 1.402 pounds (22%) over oats. Considering grain yield only barley again excelled, outyielding both oats and wheat by 546 pounds (21%) and 586 pounds (22%) respectively. In this comparison oats exceeded wheat but the difference between these two crops was only 40 pounds. When kernel yield is considered, barley again excelled. It exceeded wheat by 227 pounds (9%) and yielded 877 pounds (50%) more than oats. In straw yield only barley was again high, being 413 pounds (10%) over wheat and 856 pounds (22%) over oats. The results of this test show conclusively that barley was the best crop for feed purposes, particularly if the straw was needed, and as in the case of the two varieties used in this test, a smooth awned variety was grown. The superiority of wheat to oats in kernel yield would not be offset by the greater usefulness of oat straw, and according to these results barley and wheat are the best crops for general feed purposes.

TABLE NO. 15—SUMMARIZED RESULTS FOR ZONE 3E

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	5,654	6,331	6,647
Average grain yield in pounds per acre.....	1,977	2,334	2,586
Average grain yield in pounds per acre (minus hulls).....	1,977	1,683	2,340
Average straw yield in pounds per acre.....	3,677	3,997	4,061
Bushel weight in pounds.....	62.1	37.8	51.1
Necessary grain yield difference in pounds per acre—362.			

Cereal Variety Zone 3E

The results of zone 3E appear in Table No. 15. In yield grain plus straw barley exceeded oats by 316 pounds (5%) and wheat by 993 pounds (18%). In grain yield barley outyielded oats by 252 pounds or 11%, and exceeded wheat by 609 pounds or 31%. Oats also outyielded wheat, the difference between these crops being 357 pounds or 18%. When grain minus hulls is considered, barley still excelled, but wheat exceeded oats by a difference of 294 pounds (17%). In straw yield only, barley outyielded oats by 64 pounds (2%) and wheat by 384 pounds (10%). Barley excelled in total yield, grain yield, and in kernel yield, and in this zone, for feed on the farm, it was a decidedly superior crop to oats and wheat. Wheat was superior in kernel yield to oats. The greater usefulness of the oat straw would of course offset this advantage to some extent. On the other hand, oats are relatively less useful in hog feeding and on a farm where both cattle and hogs are being fed the results of the test suggest that barley and wheat are the most satisfactory crops.

TABLE NO. 16.—SUMMARIZED RESULTS FOR ZONE 4A & 4B (COMBINED)

	Wheat	Oats	Barley
Average yield grain plus straw in pounds per acre.....	3,533	3,400	3,066
Average grain yield in pounds per acre.....	1,370	1,429	1,271
Average grain yield minus hulls in pounds per acre.....	1,370	1,022	1,119
Average straw yield in pounds per acre.....	2,163	1,971	1,795
Bushel weight in pounds.....	60.2	35.7	50.0
No significant grain yield difference between crops.			

Cereal Variety Zones 4A and 4B (Combined)

Owing to the small number of tests available, zones 4A and 4B, which represent the most northerly part of Saskatchewan's grain growing area, have been combined for the purpose of analysis. The results are shown in Table No. 16. From these results it will be observed that in gross yield wheat excelled, exceeding oats by 133 pounds or 4%, and barley by 467 pounds or 15%. When grain yield is considered, oats exceeded wheat by only 59 pounds (4%) but outyielded barley by a difference of 158 pounds (12%). A study of kernel yield shows that wheat exceeded barley by 251 pounds (22%) and oats by 348 pounds (34%). Considering straw yield only wheat exceeded oats by a difference of only 192 pounds or 10%, but barley was decidedly lower than wheat or oats by differences of 368 pounds and 176 pounds respectively. From the results of these combined zones, wheat and barley appeared about equal as feed crops, the inferiority of barley to wheat being compensated by the greater usefulness of barley straw which would be the case if a smooth awned variety was grown. Oats certainly did not equal either of the crops in kernel yield, and insofar as feed on the farm was concerned, it could only be considered as a competitor to wheat if the straw was needed. For general use where both cattle and hogs are being fed the yields of both wheat and barley were decidedly superior to oats.

FEEDING VALUES

The excerpts quoted below are taken from the writings of the authorities mentioned.

"Barley is an entirely satisfactory feed as the sole grain portion of the hog ration and until further information is available we should probably not use wheat in proportions exceeding two-thirds of the basal grain feed. The Swine Advanced Registry ration which has been decidedly satisfactory makes use of a mixture of barley, wheat and oats, in which wheat is not over two-thirds nor oats over one-third of the total by weight."⁽¹⁾ "No. 1 feed barley is superior as a bacon hog feed to corn or oats. This holds true whether rate of gain, efficiency of feed or carcass excellence is used as the measure. While producing slower gains, mixtures of equal parts of pure barley and domestic oats or corn and oats produced acceptable market carcasses. They were not, however, the equal of those from the pigs on pure barley rations. Oats when constituting the entire basal fraction of the hog ration produced much slower gains in live weight. The carcasses from oat fed hogs carried a high percentage of lean, but were under-finished and hence less desirable than those from barley or barley and oat fed hogs."⁽²⁾ "While it is true that barley may constitute the entire grain part of the market pig ration, it would seem quite unwise to use wheat to the same extent. On the other hand wheat may be incorporated in the hog ration with excellent results. For example, the rations fed at the Federal Swine Testing Stations in Canada use wheat up to a maximum of 60% of the grains, the remainder being barley and oats. When a mixture of grains is used there should be no danger of carcass penalty traceable to wheat when it constitutes not over 60 percent of the feed mixture."⁽³⁾

(1) Dr. E. W. Crampton, Department of Animal Nutrition at MacDonald College of McGill University.

(2) The Feeding Value of Canadian Western Barley for Bacon Hogs.—E. W. Crampton, G. W. Muir and R. G. Knox.

(3) Barley As a Hog Feed.—Dr. E. W. Crampton.

INDIVIDUAL RESULTS

Table No. 17 shows the individual results obtained by each co-operator who conducted a feed yield test. This table is arranged by Wheat Pool Districts. A careful perusal of tables Nos. 25, 33, 43 and 44 will allow a co-operator to study his results with those of his fellow co-operators. Thus Neil R. Marjerison of Neville, who conducted a Wheat Test, and whose test designation is "B", sub-district 3, district 5, finds that Thatcher yielded at

the rate of 13.5 bushels more than Renown. The necessary difference in yield in this test is 5.1 bushels. Thus, as 13.5 bushels is more than 5.1 bushels Thatcher yielded significantly more than Renown. After examining in this way the results of his own test, Neil Marjerison turns to the test conducted in his district by Austin Hatley of Lawson, and finds that here also Thatcher outyielded Renown significantly. An examination of the results throughout these tables will reveal the fact that the varieties do not retain similar relationships in the different areas of the province, in fact sometimes not even in tests which are relatively close together. Differences of this nature may be due to several causes, the most important being differences in soil, in local weather conditions, or in the date of sowing. A few days' difference in seeding dates in the same field may give an appreciable difference in results. However, each individual test gives an accurate indication of the comparative performance of the varieties under the conditions existing on the farm where the test was made for the year 1942.

An explanation is needed respecting the data on commercial grades. The commercial grade of a variety is determined by many factors. The most important factor, of course, is the weight per measured bushel. Sometimes, however, features such as green, shrunken or bleached kernels will lower the grade regardless of bushel weight. These features must be taken into consideration when studying the individual summarized results. In this report it is impossible to show the exact extent to which the defects have reduced the grade of any variety but included in the individual summarized results under the heading of "Grading remarks," enough information is given to make the defects easily recognizable. The following abbreviations have been used to indicate the various defects: V.g.—Very green; G.—Green; S.g.—Some green; S.sh.—Some shrunken; Sh.—Shrunken; B.Sh.—Badly shrunken; S.i.—Some immature; I.—Immature; Bl.—Bleached; S.Bl.—Some bleached; B. bl.—Badly bleached; S. st.—Some starchy; St.—Starchy; V. st.—Very starchy; S. sp.—Some sprouted; Sp.—Sprouted; B. sp.—Badly sprouted; P.—Pink; S. p.—Some pink; L. w.—Light weight; B. p.—Black point; S. b. p.—Some black point; H.—Heated; Mxd. h.—Mixed heated; B. h.—Badly heated; F.—Frosted; L. f.—Lightly frosted; S. f.—Some frosted; W.—Weathered; S. w.—Slightly weathered; T.—Thin; Pl.—Peeled; M.—Mildewed; Hl.—Hulled; S. hl.—Some hulled; Dgd.—Damaged; S. e.—Some ergot; E.—Ergot.



The Feed Yield Test of Harry Petryshyn, Rama.

TABLE No. 17

Summarized Individual Results for All Feed Yield Tests

WHEAT POOL DISTRICT 1

Cereal variety	Sub-zone	Test	Yield grain plus straw	Grain yield in lbs. per acre	Straw yield in lbs. per acre	Grain yield in bus. per acre	Grain yield minus hulls in lbs. per acre			
Zone	Dist. dist. nation	Designation								
3A	1	2	A	Wheat	2709	624	2085	10.4	624	...
..	..	..	..	Oats	4581	1264	3317	37.2	908	...
..	..	..	..	Barley	3199	699	2501	14.6	615	...

Necessary grain yield difference in lbs. per acre—149.

JAMES HERBERT GILROY, OXBOW

2A	1	3	A	Wheat	3683	1281	2402	21.4	1281	...
..	..	..	..	Oats	4526	1918	2608	56.4	1390	...
..	..	..	..	Barley	4377	1599	2778	33.3	1407	...

Necessary grain yield difference in lbs. per acre—Samples incomplete.

IAN MAURICE GIBSON, KINGSFORD

2A	1	4	A	Wheat	1640	509	1131	8.5	509	...
..	..	..	..	Oats	2607	1018	1589	29.9	738	...
..	..	..	..	Barley	2366	1212	1654	25.3	1067	...

Necessary grain yield difference in lbs. per acre—188.

KENNETH MIBURN CLARKSON WALLACE, WORDSWORTH

3A	1	10	A	Wheat	3689	1149	2541	19.2	1149	...
..	..	..	..	Oats	4792	1105	3687	32.4	789	...
..	..	..	..	Barley	3995	1145	2850	23.9	1008	...

No significant grain yield difference between crops.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

3A	1	1	A	Robert Maxwell Smith, Gainsborough
1A	1	6	A	Paul Dornian, Outram
2A	1	8	A	William August McDowell, Griffin
2A	1	9	A	Harold Gordon Wyatt, Kisbey

WHEAT POOL DISTRICT 2

KENNETH WILLIAM JANKE, BEAUBIER

1A	2	1	A	Wheat	2661	1023	1638	17.1	1023	...
..	..	..	..	Oats	3117	1369	1749	40.3	984	...
..	..	..	..	Barley	4057	1942	2115	40.5	1709	...

Necessary grain yield difference in lbs. per acre—211.

VICTOR KINGDON, CEYLON

1A	2	2	A	Wheat	2791	897	1894	15.0	897	...
..	..	..	..	Oats	2410	490	1920	14.4	350	...
..	..	..	..	Barley	3165	854	2311	17.8	752	...

Necessary grain yield difference in lbs. per acre—122.

ROBERT JAMES EDWIN RUTHVEN, LISIEUX

1A	2	4	A	Wheat	4275	1584	2691	26.4	1584	...
..	..	..	..	Oats	4730	1904	2326	56.0	1384	...
..	..	..	..	Barley	5928	2549	3380	53.1	2243	...

Necessary grain yield difference in lbs. per acre—136.

RICHARD DAVID ELLIS, LONESOME BUTTE

1A	2	5	4	Wheat	5228	2178	3050	36.3	2178	...
..	..	..	..	Oats	4288	1590	2698	46.7	1153	...
..	..	..	..	Barley	5227	2047	3180	42.6	1802	...

Necessary grain yield difference in lbs. per acre—220.

MALCOLM GILBERT FLYNN, FIR MOUNTAIN

1A	2	6	A	Wheat	6922	2472	4450	41.2	2472	...
..	..	..	..	Oats	7453	3392	4062	99.8	2462	...
..	..	..	..	Barley	8637	4432	4305	90.3	3813	...

No significant grain yield difference between crops.

Wheat Pool District 2—Continued

Cereal variety zone	Sub- dist.	Test design- nation	Yield grain plus straw in lbs. per acre	Grain yield in lbs. per acre		Straw yield in lbs. per acre	Grain yield in bus. per acre	Grain yield minus hulls in lbs. per acre		
NEIL ALLEN POMRENKE, CONGRESS										
1A	2	7	A	Wheat	5711	1809	3902	30.2	1809	...
"	"	"	"	Oats	6827	2363	4464	69.5	1710	...
"	"	"	"	Barley	5704	2436	3268	50.8	2144	...

Necessary grain yield difference in lbs. per acre—257.

CHARLES ANDREW LOUCKS, PANGMAN

1A	2	10	A	Wheat	7610	2991	4619	49.9	2991	...
"	"	"	"	Oats	7419	3097	4322	91.1	2233	...
"	"	"	"	Barley	6895	2969	3926	61.9	2613	...

No significant difference between crops.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1A	2	3	A	James Paterson, Jr., Hart
1A	2	8	A	Henry Bramall Hepworth, Readlyn

WHEAT POOL DISTRICT 3

PHILIP GEORGE MERRETT, WIDEVIEW

1A	3	1	A	Wheat	4295	2904	1391	48.4	2904	...
"	"	"	"	Oats	4649	3131	1518	92.1	2268	...
"	"	"	"	Barley	4853	3514	1339	73.2	3092	...

Necessary grain yield difference in lbs. per acre—292.

JAMES ALLEN LUDWIG, BRACKEN

1A	3	3	A	Wheat	5568	2133	3435	35.6	2133	...
"	"	"	"	Oats	5853	2673	3181	78.6	1942	...
"	"	"	"	Barley	5990	2846	3144	59.3	2504	...

Necessary grain yield difference in lbs. per acre—210.

GORDON SAMUEL REAMER, VIDORA

1A	3	4	A	Wheat	6330	2451	3879	40.9	2451	...
"	"	"	"	Oats	6303	2664	3639	78.4	1926	...
"	"	"	"	Barley	7834	3298	4536	68.7	2902	...

Necessary grain yield difference in lbs. per acre—287.

ORVAL MORRIS CHATTERSON, EASTBROOK

1A	3	7	A	Wheat	5690	1941	3749	32.4	1941	...
"	"	"	"	Oats	5792	2400	3392	70.6	1747	...
"	"	"	"	Barley	6330	2760	3570	57.5	2729	...

Necessary grain yield difference in lbs. per acre—254.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1A	3	2	A	John Harbora, Masefield
1A	3	5	A	Arthur Melvin Rye, Robsart
1A	3	6	A	Miss Vida Violet Svennes, Olga
2C	3	8	A	Corbett Alvin Kessy, Instow
1A	3	9	A	Peter Arnt Peterson, Admiral
1A	3	10	A	Eldon Francis Knox, Wallard

WHEAT POOL DISTRICT 4

MISS PHYLLIS MABEL BUTLER, CARMICHAEL

1B	4	1	A	Wheat	5792	2490	3302	41.5	2490	...
"	"	"	"	Oats	5860	2464	3397	72.5	1784	...
"	"	"	"	Barley	6078	2859	3220	59.6	2516	...

No significant grain yield difference between crops.

GERALD ALBERT TUSTIAN, MAPLE CREEK

1B	4	2	A	Wheat	6487	1845	4642	30.8	1845	...
"	"	"	"	Oats	6065	1989	4076	58.5	1435	...
"	"	"	"	Barley	5942	2150	3792	44.8	1892	...

No significant grain yield difference between crops.

DONALD DALE HUSSEY, STEWART VALLEY

1A	4	3	A	Wheat	4799	1899	2900	31.7	1899	...
"	"	"	"	Oats	4459	2146	2313	63.1	1549	...
"	"	"	"	Barley	4629	2184	2445	45.5	1922	...

No significant grain yield difference between crops.

Wheat Pool District 4—Continued

Cereal variety zone	Sub- dist.	Test design- ation	Crops	Yield grain plus straw			Grain yield minus hulls	
				in lbs. per acre	in lbs. per acre	Straw yield in lbs. per acre	Grain yield in bus. per acre	in lbs. per acre

PHILIP ALMON JENSEN, GULL LAKE

1B	4	4	A	Wheat	3900	1455	2445	24.3	1455	...
"	"	"	"	Oats	4615	1952	2663	57.4	1419	...
"	"	"	"	Barley	5248	2170	3078	45.2	1910	...

Necessary grain yield difference in lbs. per acre—407.

HAROLD ELMER STADE, CABRI

1A	4	5	A	Wheat	7623	3063	4560	51.1	3063	...
"	"	"	"	Oats	7181	3118	4063	91.7	2273	...
"	"	"	"	Barley	8985	4092	4893	85.3	3601	...

Necessary grain yield difference in lbs. per acre—331.

DAVID ALBERT RATCLIFFE, HILDA, ALTA.

1B	4	7	A	Wheat	4138	1395	2743	23.3	1395	...
"	"	"	"	Oats	3444	1420	2024	41.8	1032	...
"	"	"	"	Barley	5044	2146	2898	44.7	1889	...

Necessary grain yield difference in lbs. per acre—446.

KENNETH LLOYD DALLARD, PRELATE

1B	4	8	A	Wheat	5173	2007	3166	33.5	2007	...
"	"	"	"	Oats	4356	1578	2778	46.4	1152	...
"	"	"	"	Barley	6146	2548	3598	53.1	2243	...

Necessary grain yield difference in lbs. per acre—204.

GORDON ELVIN PRENTICE, ABBEY

1A	4	10	A	Wheat	6963	2325	4638	38.8	2325	...
"	"	"	"	Oats	6943	2739	4204	80.6	2002	...
"	"	"	"	Barley	7643	2633	4010	75.7	3198	...

Necessary grain yield difference in lbs. per acre—318.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1B 4 6 A Lloyd Redick, Maple Creek

1B 4 9 A Henry Slater Rowbotham, Lemsford

WHEAT POOL DISTRICT 5

WILLIAM FREDERICK CAMPBELL, VANTAGE

1A	5	1	A	Wheat	3097	1224	1873	20.4	1224	...
"	"	"	"	Oats	3322	1350	1972	39.7	969	...
"	"	"	"	Barley	3948	1815	2083	37.8	1641	...

Necessary grain yield difference in lbs. per acre—245.

WILLIAM LAWRENCE OEHLERKING, GRAVELBOURG

1A	5	2	A	Wheat	6044	2172	3872	36.2	2172	...
"	"	"	"	Oats	6215	2899	3316	85.3	2105	...
"	"	"	"	Barley	7698	3602	4096	75.0	3170	...

Necessary grain yield difference in lbs. per acre—226.

DAVID JACOB HAMM, NEVILLE

2C	5	3	A	Wheat ....	....	1410	....	23.5	....	...
"	"	"	"	Oats ....	....	1615	....	47.5	....	...
"	"	"	"	Barley ....	....	1704	....	35.5	....	...

No samples Valor received.

EDWIN CHARLES VEER, WALDECK

1A	5	4	A	Wheat	5670	2118	3552	35.3	2118	...
"	"	"	"	Oats	5057	2467	2591	72.6	1786	...
"	"	"	"	Barley	7051	3197	3855	66.6	2813	...

Necessary grain yield difference in lbs. per acre—406.

RUDOLF SCHOENROTH, HODGEVILLE

1A	5	5	A	Wheat	9025	3615	5410	60.3	3615	...
"	"	"	"	Oats	10040	4590	5450	135.0	3331	...
"	"	"	"	Barley	11203	5516	5688	114.9	4854	...

Necessary grain yield difference in lbs. per acre—308.

Wheat Pool District 5—Continued

Cereal zone variety	Dist.	dist.	nation	Test Sub- design-	Yield grain plus straw		Grain yield per acre in lbs.	Straw yield per acre in lbs.	Grain yield per acre in bus.	Grain yield minus hulls per acre in lbs.
					Crops	per acre in lbs.				
DAVID GILBERT MORGAN, OLD WIVES										
1A	5	6	A	Wheat	6759	2178	4581	36.3	2178	...
..	..	..	..	Oats	7712	3087	4625	90.8	2240	...
..	..	..	..	Barley	7814	3214	4600	67.0	2823	...

Necessary grain yield difference in lbs. per acre—710.

LLOYD ALLEN ROWE, MORTLACH

1A	5	7	A	Wheat	4683	1605	3078	26.8	1605	...
..	..	..	..	Oats	5187	1528	3659	44.9	1120	...
..	..	..	..	Barley	6398	2698	3700	56.2	2374	...

Necessary grain yield difference in lbs. per acre—276.

FLOYD PERCY KING, TUXFORD

2A	5	8	A	Wheat	5514	2040	3474	34.0	2040	...
..	..	..	..	Oats	4717	1296	3421	38.1	964	...
..	..	..	..	Barley	5970	2599	3871	54.1	2288	...

Samples incomplete.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1A 5 9 A Mark Smith, Jr., Druxford

WHEAT POOL DISTRICT 6

GLENN McEWEN, TYVAN

2A	6	1	A	Wheat	5772	1965	3807	32.8	1965	...
..	..	..	..	Oats	8154	2938	5216	86.4	2136	...
..	..	..	..	Barley	8515	3893	4622	81.1	3426	...

Necessary grain yield difference in lbs. per acre—421.

GORDON JOHN RYAN, WILCOX

2A	6	3	A	Wheat	5942	1926	4016	32.1	1926	...
..	..	..	..	Oats	8474	3091	5383	90.9	2221	...
..	..	..	..	Barley	8937	3778	5159	78.7	3325	...

Necessary grain yield difference in lbs. per acre—558.

ELLWOOD HOWARD WILSON, ROULEAU

2A	6	6	A	Wheat	5500	1734	3766	28.9	1734	...
..	..	..	..	Oats	8052	2837	5215	83.4	2050	...
..	..	..	..	Barley	7507	2974	4533	62.0	2617	...

Necessary grain yield difference in lbs. per acre—228.

BERNARD HENRY SMITH, ZEHNER

2A	6	7	A	Wheat	5500	2019	3481	33.7	2019	...
..	..	..	..	Oats	6487	3024	3463	88.9	2180	...
..	..	..	..	Barley	6950	3135	3815	65.3	2758	...

Necessary grain yield difference in lbs. per acre—301.

CHARLES ALBERT WILLERTH, INDIAN HEAD

3A	6	8	A	Wheat	4656	1398	3258	23.3	1398	...
..	..	..	..	Oats	6684	2646	4038	77.8	1908	...
..	..	..	..	Barley	6296	2463	3833	51.3	2167	...

Necessary grain yield difference in lbs. per acre—289.

JAMES EDWARD ARMSTRONG, MUSCOW

3A	6	9	A	Wheat	5105	1716	3389	28.6	1716	...
..	..	..	..	Oats	5432	2472	2960	72.7	1782	...
..	..	..	..	Barley	7440	3007	4433	62.6	2646	...

No significant grain yield difference between crops.

ARTHUR KOHLER, DISLEY

2B	6	10	A	Wheat	4240	1660	2380	31.0	1860	...
..	..	..	..	Oats	4533	2212	2321	65.1	1592	...
..	..	..	..	Barley	4976	2441	2535	50.9	2148	...

Necessary grain yield difference in lbs. per acre—313.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

2A 6 2 A Cyril I. Biegler, Vibank
1A 6 4 A Miss Ruth Gertrude Parker, Cardross
1A 6 5 A Jack Vernon Lind, Balldon

WHEAT POOL DISTRICT 7

Cereal variety	Sub-zone	Test dist.	desig- nation	Crops	Yield grain plus straw in lbs. per acre	Grain yield in lbs. per acre	Straw yield in lbs. per acre	Grain yield in bus. per acre	Grain yield minus hulls in lbs. per acre
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FRANK WILLIAM PACHAL, KIPLING

3A	7	4	A	Wheat	4295	1155	3140	19.3	1155	...
"	"	"	"	Oats	7079	2690	4389	79.1	1936	...
"	"	"	"	Barley	5976	2254	3723	47.0	1983	...

Necessary grain yield difference in lbs. per acre—144.

NORMAN EARL SIM, HANDSWORTH

2A	7	5	A	Wheat	3601	1143	2458	19.1	1143	...
"	"	"	"	Oats	4145	1761	2384	51.8	1268	...
"	"	"	"	Barley	4098	1352	2746	28.2	1190	...

Necessary grain yield difference in lbs. per acre—190.

JAMES RAYMOND DAYMAN, WHITEWOOD

3A	7	8	A	Wheat	3369	674	2695	11.2	674	...
"	"	"	"	Oats	4867	1182	3685	34.8	850	...
"	"	"	"	Barley	3819	866	2953	18.0	762	...

Necessary grain yield difference in lbs. per acre—250.

ELMAR NORMAN EINARSON, TANTALLON

3A	7	9	A	Wheat	3900	1353	2547	22.6	1353	...
"	"	"	"	Oats	4445	1493	2952	43.7	1074	...
"	"	"	"	Barley	5364	1760	3604	36.6	1548	...

Necessary grain yield difference in lbs. per acre—199.

ALBERT JOHN ALLEN, LEMBERG

3A	7	10	A	Wheat	5398	2292	3106	38.2	2292	...
"	"	"	"	Oats	4649	1833	2816	53.9	1314	...
"	"	"	"	Barley	6078	2484	3594	51.7	2186	...

Necessary grain yield difference in lbs. per acre—190.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

3A 7 1 A William Graham Ferguson, Walpole

2A 7 6 A Balzar Weimer, Jr., Kendal

3A 7 7 A John Joe Lichacz, Oakshella

WHEAT POOL DISTRICT 8

ARDO ELMER KENDAL, MACNUTT

3B	8	1	A	Wheat	4003	1419	2584	23.7	1419	...
"	"	"	"	Oats	3900	1756	2144	51.6	1262	...
"	"	"	"	Barley	5670	2626	3044	54.7	2310	...

Necessary grain yield difference in lbs. per acre—208.

EDWARD BERES, WILLOWBROOK

3C	8	4	A	Wheat	4935	1878	3057	31.3	1878	...
"	"	"	"	Oats	3812	1539	2273	45.3	1105	...
"	"	"	"	Barley	5520	2487	3033	51.8	2187	...

Necessary grain yield difference in lbs. per acre—349.

PETER KOSTINUUK, ORMSIDE

3B	8	9	A	Wheat	4594	1737	2857	29.0	1737	...
"	"	"	"	Oats	3219	1280	1939	37.6	927	...
"	"	"	"	Barley	3934	1894	2040	39.5	1667	...

No significant grain yield difference between crops.

PETER KLUK, BENITO, MAN.

3B	8	10	A	Wheat	6405	2220	4185	37.0	2220	...
"	"	"	"	Oats	4254	2178	2077	64.1	1582	...
"	"	"	"	Barley	6725	2657	4068	55.4	2338	...

Necessary grain yield difference in lbs. per acre—349.

Wheat Pool District 8—Continued

Cereal variety zone	Sub- dist.	Test design- nation	Crops	Yield grain plus straw		Grain yield in lbs.	Straw yield in lbs.	Grain yield in bus.	Grain yield minus hulls in lbs.
				in lbs.	per acre				
JOSEPH CLARENCE BARCH, STURGIS									
3B	8	8	A	Wheat	2352	39.2	2352		
..	..	..	..	Oats	289	8.5	216		
..	..	..	..	Barley	1968	41.0	1733		
Necessary grain yield difference in lbs. per acre—Bulked.									

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

3C	8	2	A	Loyde Inglis, Rokeby
3C	8	3	A	Peter Halyk, Birmingham
3B	8	5	A	Iain Cowan MacLean, Kamsack
3C	8	6	A	Dan N. Romanuk, Gorlitz
3C	8	7	A	Harry Petryshyn, Rama

WHEAT POOL DISTRICT 9

VLADIMER LEONTOWICZ, JASMIN

3C	9	1	A	Wheat	2267	1200	1067	20.0	1200	...
..	..	..	..	Oats	2063	826	1237	24.3	594	...
..	..	..	..	Barley	2267	1340	927	27.9	1179	...

No significant grain yield difference between crops.

REGINALD JOHN BEHAN, MARKINCH

2B	9	2	A	Wheat	6275	1713	4562	28.5	1713	...
..	..	..	..	Oats	7677	2325	5352	68.4	1683	...
..	..	..	..	Barley	7010	1901	5109	39.6	1673	...

Necessary grain yield difference in lbs. per acre—Bulked.

ARVID THOMPSON, BULYEA

2B	9	4	A	Wheat	6949	2376	4573	39.6	2376	...
..	..	..	..	Oats	6487	2686	3801	79.0	1937	...
..	..	..	..	Barley	7848	3248	4600	67.6	2858	...

Necessary grain yield difference in lbs. per acre—389.

MISS IRIS MURIEL POPE, DRAKE

2B	9	6	A	Wheat	3846	1422	2424	23.7	1422	...
..	..	..	..	Oats	3264	1758	1506	51.7	1270	...
..	..	..	..	Barley	3846	1678	2168	35.0	1477	...

No significant grain yield difference between crops.

MISS VIOLET EUGENIA NYSTROM, PRODUCT

3C	9	8	A	Wheat	8379	1065	7314	17.7	1065	...
..	..	..	..	Oats	10788	1590	9199	46.8	1590	...
..	..	..	..	Barley	6316	1131	5186	23.6	1131	...

No significant grain yield difference between crops.

ROBERT KEITH DRYDEN, TUFFNELL

3C	9	9	A	Wheat	4662	1887	2775	31.5	1887	...
..	..	..	..	Oats	3887	1668	2219	49.0	1202	...
..	..	..	..	Barley	5588	2597	2991	54.1	2286	...

Necessary grain yield difference in lbs. per acre—244.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

3C	9	3	A	Miss Marjorie Louise George, Leross
2B	9	5	A	Wilfred Gottfried Gritzfeld, Duval
3C	9	10	A	Louis Hugh Halldorson, Leslie

WHEAT POOL DISTRICT 10

SHIRLEY E. ANDREWS, GILROY

1A	10	2	A	Wheat	6657	2649	4008	44.2	2649	...
..	..	..	..	Oats	5683	3526	2157	103.7	2558	...
..	..	..	..	Barley	6487	3852	2635	80.3	3390	...

Necessary grain yield difference in lbs. per acre—341.

ARTHUR AKITT TEGART, MILDEN

2B	10	4	A	Wheat	6772	2712	4060	45.2	2712	...
..	..	..	..	Oats	10658	2947	7711	86.7	2124	...
..	..	..	..	Barley	7337	2736	4601	57.0	2407	...

No significant grain yield difference between crops.

Wheat Pool District 10—Continued

Cereal variety	Sub-zone	Test dist.	Designation	Crops	Yield grain plus straw in lbs. per acre	Grain yield in lbs. per acre	Straw yield in lbs. per acre	Grain yield in bus. per acre	Grain yield minus hulls in lbs. per acre
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LAWRENCE McNABB, JR., BIRSBY

1A	10	5	A	Wheat	7065	2205	4860	36.8	2205
..	Oats	7882	2683	5199	78.9	1940
..	..	..	..	Barley	8113	3146	4967	65.5	2769

Necessary grain yield difference in lbs. per acre—406.

DAVID GRAHAM C. DONALDSON, DAVIDSON

2B	10	7	A	Wheat	5432	2328	3104	38.8	2328
..	..	..	..	Oats	4989	2603	2386	76.6	1886
..	..	..	..	Barley	6350	2993	3257	62.4	2634

Necessary grain yield difference in lbs. per acre—257.

JOHN JOSEPH ALIX, BLADWORTH

2B	10	9	A	Wheat	7065	1881	5184	31.4	1881
..	..	..	..	Oats	8644	3777	4867	111.1	2748
..	..	..	..	Barley	8597	3658	4939	76.2	3219

Necessary grain yield difference in lbs. per acre—451.

CHARLES EDWARD WALPER, DONAVON

2B	10	10	A	Wheat	2961	1299	1662	21.7	1299
..	..	..	..	Oats	1906	747	1159	21.9	540
..	..	..	..	Barley	1790	744	1046	15.5	655

Necessary grain yield difference in lbs. per acre—258.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1A	10	3	A	Wayne Ross Affleck, Demaine
2B	10	6	A	Floyd McCabe Davey, Glenside
2B	10	8	A	Harris Raymond Refd, Renown

WHEAT POOL DISTRICT 11

OSCAR HOFFMANN, EATONIA

1B	11	4	A	Wheat	5622	2364	3258	39.4	2364
..	..	..	..	Oats	5452	2188	3264	64.4	1578
..	..	..	..	Barley	5704	2558	3146	53.3	2251

Necessary grain yield difference in lbs. per acre—187.

ALLAN YEOMANS, MARENGO

1B	11	5	A	Wheat	4479	1710	2769	28.5	1710
..	..	..	..	Oats	4105	1651	2454	48.6	1200
..	..	..	..	Barley	5105	2371	2734	49.4	2087

Necessary grain yield difference in lbs. per acre—324.

WILLIAM KENNETH SCHMIDT, KINDERSLEY

1A	11	6	A	Wheat	7269	2442	4827	40.7-	2442
..	..	..	..	Oats	6330	2501	3330	73.6-	1809
..	..	..	..	Barley	7269	3007	4262	62.6	2646

Necessary grain yield difference in lbs. per acre—196.

MISS RITA MAE OLIVER, ROSETOWN

2B	11	7	A	Wheat	8780	3390	5390	56.5	3390
..	..	..	..	Oats	7998	3281	4717	96.5	2378
..	..	..	..	Barley	9052	4210	4842	87.7	3705

Necessary grain yield difference in lbs. per acre—346.

HAROLD RUSSELL REA, HERSCHEL

2D	11	8	A	Wheat	5119	1983	3136	33.1	1983
..	..	..	..	Oats	6514	2977	3537	87.6	2146
..	..	..	..	Barley	3948	1870	2078	39.0	1646

Necessary grain yield difference in lbs. per acre—344.

MELVIN PETER YALTE, COURT

1B	11	10	A	Wheat	4853	1878	2975	31.3	1878
..	..	..	..	Oats	4717	2091	2626	61.5	1513
..	..	..	..	Barley	5330	2462	2868	51.3	2167

Necessary grain yield difference in lbs. per acre—296.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1A	11	1	A	George Ralph Vernon Mullis, Tyner
1B	11	3	A	Joe Boychuck, Eatonia

WHEAT POOL DISTRICT 12

Cereal variety zone	Sub- zone	Test desig- nation	Crops	Yield grain plus straw in lbs.				Grain yield in lbs.		Straw yield in lbs.		Grain yield minus hulls in lbs.	
				per acre	per acre	per acre	in bus.	per acre	per acre	per acre	per acre	per acre	per acre
WALBERT J. LEIDL, NASEBY													
2D	12	2	A	Wheat	4064	1575	2489	26.3	1575	1575	1575	1575	1575
"	"	"	"	Oats	3941	2040	1901	60.0	1468	1468	1468	1468	1468
"	"	"	"	Barley	4587	2237	2350	46.6	1969	1969	1969	1969	1969

Necessary grain yield difference in lbs. per acre—329.

WILLIAM REINIGER, LEIPZIG

2D	12	3	A	Wheat	4275	1704	2571	28.4	1704	1704	1704	1704	1704
"	"	"	"	Oats	5023	2096	2927	61.6	1506	1506	1506	1506	1506
"	"	"	"	Barley	5840	2575	3265	53.6	2266	2266	2266	2266	2266

Necessary grain yield difference in lbs. per acre—151.

KENNETH FREDERICK DUNN, KERROBERT

1A	12	4	A	Wheat	4792	1746	3046	29.1	1746	1746	1746	1746	1746
"	"	"	"	Oats	5404	2407	2997	70.8	1745	1745	1745	1745	1745
"	"	"	"	Barley	6412	2875	3537	59.9	2530	2530	2530	2530	2530

Necessary grain yield difference in lbs. per acre—180.

ARTHUR DONALDSON LEESON, UNITY

2D	12	5	A	Wheat	4921	1920	3001	32.0	1920	1920	1920	1920	1920
"	"	"	"	Oats	5295	2288	3007	67.3	1667	1667	1667	1667	1667
"	"	"	"	Barley	5670	2588	3082	53.9	2277	2277	2277	2277	2277

Necessary grain yield difference in lbs. per acre—289.

NORMAN FORD COLSON, EVESHAM

2D	12	6	A	Wheat	5758	2199	3559	36.7	2199	2199	2199	2199	2199
"	"	"	"	Oats	5309	2373	2936	69.8	1717	1717	1717	1717	1717
"	"	"	"	Barley	6487	3060	3427	63.8	2693	2693	2693	2693	2693

Necessary grain yield difference in lbs. per acre—184.

WILLIAM ANDREW QUICK, SENLAC

2D	12	7	A	Wheat	3029	1281	1748	21.4	1281	1281	1281	1281	1281
"	"	"	"	Oats	3390	1495	1895	44.0	1081	1081	1081	1081	1081
"	"	"	"	Barley	4050	1819	2231	37.9	1601	1601	1601	1601	1601

Necessary grain yield difference in lbs. per acre—150.

EARL ALLAN MacCUISH, WINTER

2D	12	8	A	Wheat	3655	1431	2224	23.9	1431	1431	1431	1431	1431
"	"	"	"	Oats	2600	753	1847	22.1	547	547	547	547	547
"	"	"	"	Barley	4064	1947	2117	40.6	1713	1713	1713	1713	1713

Necessary grain yield difference in lbs. per acre—245.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

2D	12	9	A	Allan Haase, Wilkie
3E	12	10	A	Stanley Charles Southgate, Battleford

WHEAT POOL DISTRICT 13

HERMAN MILTON AUSTENSON, VISCOUNT

2B	13	1	A	Wheat	4717	1692	3025	28.2	1692	1692	1692	1692	1692
"	"	"	"	Oats	6589	2732	3857	80.4	1983	1983	1983	1983	1983
"	"	"	"	Barley	5071	2127	2944	44.3	1871	1871	1871	1871	1871

Necessary grain yield difference in lbs. per acre—241.

JOHN SAFINUK, COLONSAY

2D	13	2	A	Wheat	3784	2088	1696	34.8	2088	2088	2088	2088	2088
"	"	"	"	Oats	4772	3378	1394	99.4	2430	2430	2430	2430	2430
"	"	"	"	Barley	5071	3288	1783	68.5	2894	2894	2894	2894	2894

Necessary grain yield difference in lbs. per acre—398.

ROBERT SKELTON, ABERDEEN

2B	13	7	A	Wheat	4731	1665	3066	27.8	1665	1665	1665	1665	1665
"	"	"	"	Oats	7610	3460	4150	101.7	2514	2514	2514	2514	2514
"	"	"	"	Barley	6330	2645	3685	55.1	2328	2328	2328	2328	2328

Necessary grain yield difference in lbs. per acre—481.

Wheat Pool District 13—Continued

Cereal variety zone	Sub- dist. dist.	Test desig- nation	Crops	Yield grain plus straw					Grain yield minus hulls in lbs. per acre
				in lbs. per acre	in lbs. per acre	Straw yield in lbs. per acre	Grain yield in bus. per acre		
WILLIAM E. HINDY, WAKAW									
3E	13	9	A	Wheat	4785	1674	3111	27.9	1674
"	"	"	"	Oats	8345	3314	5031	97.5	2393
"	"	"	"	Barley	7998	3332	4666	69.4	2932

Necessary grain yield difference in lbs. per acre—257.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

2B	13	3	A	Jack Andreen, Allan
2B	13	4	A	Arnold Victor Delbert, Estow
4A	13	10	A	Walter Frank Lepsenyi, Middle Lake

WHEAT POOL DISTRICT 14

BERT OTTO ANDERSON, HENDON

3C	14	2	A	Wheat	5656	1497	4159	25.0	1497
"	"	"	"	Oats	5105	1507	3599	44.3	1088
"	"	"	"	Barley	4799	1899	2900	39.6	1671

No significant grain yield difference between crops.

LEO HLECK, ENGLEFELD

3C	14	4	A	Wheat	4683	1692	2991	28.2	1692
"	"	"	"	Oats	5514	1884	3630	55.4	1370
"	"	"	"	Barley	4921	1882	3040	39.2	1656

No significant grain yield difference between crops.

HAROLD C. JELLINE, BEATTY

3D	14	7	A	Wheat	6847	2439	4408	40.6	2439
"	"	"	"	Oats	7221	2541	4680	74.7	1816
"	"	"	"	Barley	7609	2558	5050	53.3	2251

No significant grain yield difference between crops.

ALFRED CUNNINGHAM YORK, LEACROSS

3D	14	9	A	Wheat	6486	2370	4116	39.5	2370
"	"	"	"	Oats	5295	2347	2948	69.0	1692
"	"	"	"	Barley	7712	3422	4289	71.3	3012

Necessary grain yield difference in lbs. per acre—312.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

3C	14	1	A	Raymond Hendron, Kelvington
3C	14	3	A	Walter Ernest Kopp, Quill Lake
3C	14	5	A	Lloyd Douglas Loynes, Lac Vert
3C	14	6	A	Marvin Charles Whitford, Rose Valley
3D	14	8	A	Daryl Keith Hooper, Tisdale
3D	14	10	A	Evan Hulley, Codette

WHEAT POOL DISTRICT 15

MISS BEULAH FERN LEASK, FENTON

3E	15	1	A	Wheat	6915	2064	4851	34.4	2064
"	"	"	"	Oats	6725	2188	4537	64.4	1572
"	"	"	"	Barley	6739	2163	4576	45.1	1903

No significant grain yield difference between crops.

LESTER ALBIN LINDGREN, DOMREMY

4A	15	2	A	Wheat	4070	1380	2690	23.0	1380
"	"	"	"	Oats	4036	1714	2323	50.4	1226
"	"	"	"	Barley	3478	1354	2125	28.2	1191

Necessary grain yield difference in lbs. per acre—224.

JOSEPH BLANCHARD, DUCK LAKE

3E	15	3	A	Wheat ....	....	1536	....	25.6	....
"	"	"	"	Oats .....	....	2634	....	77.5	....
"	"	"	"	Barley ....	....	2074	....	43.2	....

Samples incomplete.

Wheat Pool District 15—Continued

Cereal variety zone	Sub- dist.	Test desig- nation	Crops	Yield grain plus straw				Grain yield in lbs. per acre	Straw yield in lbs. per acre	Grain yield in bus. per acre	Grain yield minus hulls in lbs. per acre	
				in lbs.	in lbs.	in lbs.	in lbs.					
SHELDON FRIESEN, ROSTHORN												
3E	15	4	A	Wheat	6432	2130	4302	35.5	2130	...	...	...
..	..	..	..	Oats	7494	2122	5372	62.4	1540	...	...	...
..	..	..	..	Barley	7167	2564	4604	53.4	2256	...	...	...

No significant grain yield difference between crops.

ALLAN CHARLES LUEBKE, WILD ROSE

3E	15	8	A	Wheat	6963	2409	4554	40.2	2409	...	...	...
..	..	..	..	Oats	7664	2559	5106	75.3	1846	...	...	...
..	..	..	..	Barley	8733	3665	5068	76.4	3225	...	...	...

Necessary grain yield difference in lbs. per acre—731.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

4B	15	6	A	Mervin Dallman, Amiens
3E	15	7	A	Edwin Rask, Nestledown
3D	15	10	A	Sven Larson, Kinistino

WHEAT POOL DISTRICT 16

JOHN PERCY SIMMONDS, SPEERS

3E	16	2	A	Wheat	4669	1872	2797	31.2	1872	...	...	...
..	..	..	..	Oats	4887	2129	2759	62.6	1533	...	...	...
..	..	..	..	Barley	5398	2554	2844	53.2	2247	...	...	...

Necessary grain yield difference in lbs. per acre—262.

KENNETH WILLIAM WESSON, MAIDSTONE

3E	16	5	A	Wheat	4785	1728	3057	28.8	1728	...	...	...
..	..	..	..	Oats	4874	2059	2815	60.6	1483	...	...	...
..	..	..	..	Barley	4935	1894	3041	39.5	2117	...	...	...

No significant grain yield difference between crops.

WILLIAM HOWARD JOHNSON, MAYFAIR

3E	16	10	A	Wheat	5030	1971	3059	32.9	1971	...	...	...
..	..	..	..	Oats	4336	1971	2365	58.0	1417	...	...	...
..	..	..	..	Barley	5561	2187	3374	45.6	1924	...	...	...

No significant grain yield difference between crops.

LEO OLOF & EMIL LOUIE LARSON, ROBINHOOD

4B	16	9	A	Wheat	2995	1308	1687	21.8	1308	...	...	...
..	..	..	..	Oats	2764	1144	1619	33.6	816	...	...	...
..	..	..	..	Barley	2654	1188	1466	24.8	1046	...	...	...

No significant grain yield difference between crops.

CLAYTON ARTHUR EDGELOW, CAVALIER

3E	16	4	A	Wheat	...	1434	...	23.9	...	...	...	...
..	..	..	..	Oats	...	325	...	9.5	...	...	...	...
..	..	..	..	Barley	...	1607	...	33.5	...	...	...	...

Samples bulked.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

3E	16	3	A	Charles W. Huard, Denholm
3E	16	6	A	Gordon Vernon Roy Ruttan, Lone Rock
3E	16	7	A	Geo. Alain, Paradise Hill
4B	16	7	B	Martha Epp, Goodscoil
4B	16	8	A	John Robert Johnson, Livelong
4B	16	9	E	Marion Olive Phillips, Cabana

WHEAT, OATS AND BARLEY VARIETY TESTS

SUMMARIZATION

ACCORDING TO SOIL CLIMATIC ZONES

In analyzing the yield results of the wheat, oats, barley and flax variety tests, calculations were made on the yield data obtained within each zone to determine the "necessary difference" required between varieties for odds of at least 19:1 that one variety yielded under the conditions of the tests and irrespective of soil variability, more than another. If the difference between two varieties equals or exceeds the necessary difference it is considered to be important; that is the higher yielding variety is considered to be significantly higher yielding than the other. The reader will be interested to know that modern variety tests, such as these, are planned in a mathematical manner in order (1) that the test will be fair, with all varieties placed and treated as nearly as possible alike, and (2) that the test will be sensitive and reveal statistically any varietal superiority that exists.

Wheat

TABLE NO. 18.—AVERAGE YIELD SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum	Necessary difference in bushels
1.....	17	31.5	27.6	26.7	27.6	26.9	33.6	28.4	2.5
2.....	2	30.5	26.1	23.7	24.5	29.6	33.2	25.9	*

* Averages based on bulked samples.

YIELD

Table No. 18 shows the average yield per acre of each variety arranged in soil climatic zones. In Zone 3 only one test was available and this test is not considered in the following discussion. As the reader will observe, in Zones 1 and 2 Thatcher outyielded all other bread wheat varieties. In Zone 1 Apex tied with Regent and these varieties ranked second to Thatcher. In Zone 2 Marquis was outyielded only by Thatcher, but the susceptibility of this variety to stem rust infection indicates the danger of its use over much of this area which in the past has suffered severely from stem rust epidemics. Apex ranked third in yield in Zone 2, and its resistance to rust places it next to Thatcher for use in this zone. While Regent tied with Apex in Zone 1, it was outyielded by the latter variety in Zone 2 by a difference of 1.6 bushels. Renown was outyielded by all the other bread wheat varieties in both zones. In Zones 1 and 2 Pelissier exceeded Mindum by differences of 5.2 bushels and 7.3 bushels respectively.

TABLE NO. 19.—AVERAGE NUMBER OF DAYS FROM SEEDING TO RIPENING
SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum
1.....	17	111.7	113.0	111.5	112.1	114.2	117.3	117.0
2.....	2	108.5	107.5	107.5	108.5	110.0	117.5	111.0

DAYS FROM SOWING TO RIPENING

Table No. 19 shows the average number of days required by the different varieties from the date of sowing to ripening. This table is arranged in soil climatic zones, and from its contents it will be observed that Renown either equalled or exceeded the other bread wheat varieties in each zone, ripening slightly earlier than Thatcher, its nearest competitor. In Zone 1, Regent exceeded Apex in its maturity period, but in Zone 2 Apex was one day earlier

than the Regent variety. Marquis was later than the other bread wheat varieties in all zones. A comparison of the two durum varieties shows that Mindum ripened earlier than Pelissier by differences which ranged from .3 day to 6.5 days. Taking the tests as a whole, Renown exceeded the other bread wheat varieties by the following differences: Thatcher .3 day, Regent .7 day, Apex 1.3 days, and Marquis 2.7 days. A general comparison of the durum varieties shows that Mindum exceeded Pelissier by 1.3 days.

TABLE NO. 20.—AVERAGE HEIGHT SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum
1.....	17	34.1	33.9	33.8	33.8	35.2	40.7	41.4
2.....	2	34.4	35.0	35.9	34.0	38.7	42.3	43.6

HEIGHT

In Table No. 20 the height in inches of each variety is shown. Marquis exceeded the other bread wheat varieties in all zones. Considerable variation appeared between the other varieties in the two zones, but a comparison of all tests shows that in general Marquis excelled, exceeding the others by the following differences: Renown 1.7 inches, Thatcher and Apex 1.8 inches, and Regent 2.1 inches. Mindum was taller than Pelissier in each of the two zones, the difference between these two varieties ranging from .7 inch in Zone 1 to 1.3 inches in Zone 2. Taking the tests as a whole, Mindum was .7 inch taller than Pelissier.

TABLE NO. 21.—STRAW STRENGTH SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum
1.....	17	9.2	8.4	8.7	8.4	9.0	8.3	8.1
2.....	2	9.2	6.9	8.5	8.3	8.6	7.4	6.3

STRAW STRENGTH

Straw strength was reported on the basis of 0-10, 10 being recorded if the plants were straight and erect. If the plants tended to lean slightly or were slightly curved at the base, the straw strength would be shown as "9". The greater the lean, the greater proportion of leaning plants, the lower the figure shown, until, if the plants were flat upon the ground, they would receive 0 for straw strength. Table No. 21 shows the strength of straw of the different varieties in each climatic zone in which wheat tests were sown, based on the marking 0 to 10 as mentioned above. A study of this table shows that in both zones Thatcher excelled. Marquis was only slightly inferior to Thatcher. Renown was slightly superior to Regent. Of the bread wheat varieties, Apex was inferior to the others, although in Zone 1 the difference was not of a marked nature. A comparison of the two durum varieties shows that Pelissier was superior to Mindum. In a general comparison of all bread wheat tests Thatcher was decidedly superior to the other varieties. Marquis, Renown, and Regent followed in the order named, but the differences between these varieties were not of a marked nature. Apex was inferior to the other varieties. Of the two durum varieties Pelissier was somewhat superior to Mindum.

TABLE NO. 22.—AVERAGE BUSHEL WEIGHT SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum
1.....	17	61.6	62.1	62.8	61.6	62.9	63.7	64.2
2.....	2	62.5	61.7	63.7	63.2	64.0	65.2	65.5

WEIGHT PER MEASURED BUSHEL

Table No. 22 shows the average bushel weight of each wheat variety arranged in Soil Climatic Zones. All weights were taken on cleaned samples. As it will be seen, Marquis and Renown generally exceeded the other bread wheat varieties. Some variation appeared between the varieties in the two zones, but in a general average of all tests, Marquis and Renown were equal in bushel weight. Each of these varieties showed an average weight of 62.9 pounds, exceeding Apex by .9 pound and outweighing Thatcher and Regent, which also tied, by 1.1 pounds. In Zone 2 Apex was lowest and Mindum highest. A comparison of the two durum varieties shows that Mindum outweighed Pelissier in the two zones. Taking the tests as a whole the difference between these varieties was .5 pound.

TABLE NO. 23.—SUMMARIZED RESULTS FOR CLIMATIC ZONE 1

	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum
Yield in bus. per acre	31.5	27.6	26.7	27.6	26.9	33.6	28.4
Days from seeding to rip- ening	111.7	113.0	111.5	112.1	114.2	117.3	117.0
Height of plant in inches	34.1	33.9	33.8	33.8	35.2	40.7	41.4
Straw strength	9.2	8.4	8.7	8.4	9.0	8.3	8.1
Bushel weight in lbs.	61.6	62.1	62.8	61.6	62.9	63.7	64.2
Commercial grades in per- centage	1 Hd. ..	..	6	6	..	1CW 20	47
	1 No. 26	26	14	..	6	2CW 40	33
	2 No. 47	54	54	60	40	3CW 14	7
	3 No. 13	..	20	20	33	4CW 14	7
	4 No. 14	14	6	7	14	5CW 6	..
	No. 5 ..	6	..	7	7	6CW 6	6

Necessary grain yield difference 2.5 bushels.

SOIL CLIMATIC ZONE NO. 1

Yield.—Thatcher outyielded the other bread wheat varieties by the following differences: Apex and Regent 3.9 bushels; Marquis 4.6 bushels, and Renown 4.8 bushels. Pelissier was decidedly superior to Mindum, the difference between these varieties being 5.2 bushels. **Earliness.**—Renown was the earliest ripening variety in this zone. It exceeded Thatcher by only .2 day, but ripened earlier than the other bread wheat varieties by the following



Harvesting his Barley Test, Harry Zelowski, Davis.

differences: Apex 1.5 days, Regent .6 day. Marquis 2.7 days. Renown exceeded the Durum varieties by the following differences: Pelissier 5.8 days and Mindum 5.5 days. **Height.**—Mindum excelled. It exceeded the other Durum variety, Pelissier, by only .7 inch, but was taller than the bread wheat varieties by the following differences: Marquis 6.2 inches, Thatcher 7.3 inches, Apex 7.5 inches, and Renown and Regent 7.6 inches. **Straw Strength.**—All varieties in this zone were reasonably satisfactory. Thatcher excelled. Apex and Regent were equal, while Renown and Marquis were only slightly superior to Apex and Regent. The last named varieties, however, showed slightly better straw strength than the Durum varieties, Mindum and Pelissier, which were also about equal. **Bushel Weight.**—Marquis with an average weight of 62.9 pounds exceeded Renown by only .1 pound, but outweighed the other bread wheat varieties by the following differences: Apex .8 pound, Thatcher and Regent 1.3 pounds. Mindum outweighed Pelissier by .5 pound. **Grades.**—Immature green and bleached kernels were in evidence in nearly all samples. A comparison of the bread wheat varieties shows that Renown excelled in commercial grades, although it was followed closely by Regent. Thatcher and Apex were more or less equal, both of these varieties grading better than Marquis. The grades of Mindum were superior to the grades placed on the Pelissier variety. **Leaf Rust.**—A more or less equal amount of infection was shown on all the bread wheat varieties. Mindum showed slightly more infection than Pelissier, but here again the infection on each variety was almost equal. **Smut.**—No loose smut infection was reported in any of the varieties. With the exception of a small percentage of covered smut shown in the Regent variety in one test, all varieties were free. **Shattering.**—Very little difference appeared between the loss sustained by Thatcher, Apex and Renown. Regent and Marquis showed slightly more loss than the latter varieties, but less than either of the Durum varieties, Mindum and Pelissier. Mindum showed slightly more loss than Pelissier but the loss was not of a severe nature.

General Results.—Thatcher excelled in yield and was reasonably satisfactory in other characteristics. Its performance was superior to the other bread wheat varieties used in this test, and it is officially recommended for use throughout this zone. Although slightly inferior in straw strength to some of the other varieties, in general Apex ranked second to Thatcher, and this variety is also officially recommended. While Mindum was somewhat superior to Pelissier in bushel weight and commercial grades, the latter variety outyielded Mindum by more than 5 bushels per acre, and in this test Pelissier appeared to be the better of the two durum varieties.

TABLE NO. 24.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 2

	Thatcher	Apex	Renown	Regent	Marquis	Pelissier	Mindum
Yield in bus. per acre	30.3	26.1	23.7	24.5	29.6	33.2	25.9
Days from seeding to ripening	108.5	107.5	107.5	108.5	110.0	117.5	111.0
Height of plant in inches	34.4	35.0	35.9	34.0	38.7	42.3	43.6
Straw strength	9.2	6.9	8.5	8.3	8.6	7.4	6.3
Bushel weight in lbs.	62.5	61.7	63.7	63.2	64.0	65.2	65.5
Commercial grades in percentage	1 No. ..	..	50	..	50 1CW 50	50	50
	2 No. 50	50	..	50	.. 3CW	50	50
	3 No. ..	..	50	50	.. 4CW 50	50	..
	4 No. 50	50	..	..	50 ..	..	..

Averages based on bulked samples.

SOIL CLIMATIC ZONE No. 2

Yield.—Thatcher also excelled in this zone, but it exceeded Marquis by only .9 bushel. Thatcher, however, outyielded the other varieties by the following differences: Apex 4.4 bushels; Regent 6.0 bushels and Renown 6.8 bushels. Pelissier again outyielded Mindum, the difference between these two durum varieties being 7.3 bushels. **Earliness.**—Apex and

Renown tied, exceeding the other varieties by the following differences: Thatcher and Regent 1 day and Marquis 2.5 days. Mindum exceeded Pelissier by a difference of 6.5 days. **Height.**—Mindum was the tallest variety, being taller than the other varieties by the following differences: Pelissier 1.3 inches, Marquis 4.9 inches, Renown 7.7 inches, Apex 8.6 inches, Thatcher 9.2 inches, and Regent 9.6 inches. **Straw Strength.**—Thatcher excelled in this zone, exceeding Apex and Mindum by marked differences. Renown, Regent, and Marquis were slightly inferior to Thatcher. Pelissier was slightly inferior to the bread wheat varieties, but was superior to Mindum. **Bushel Weight.**—A comparison of the bread wheat varieties shows that Marquis, with an average bushel weight of 64 pounds, exceeded the other varieties by differences as follows: Renown .3 pound, Regent .8 pound, Thatcher 1.5 pounds and Apex 2.3 pounds. The durum variety, Mindum, outweighed Pelissier by .3 pound. **Grades.**—Green, bleached, and immature kernels appeared in nearly all samples. Renown showed fewer defects than the other varieties, and this fact together with comparatively good bushel weight, placed Renown in first place in commercial grades. The grades of Marquis, however, were only slightly inferior to Renown. Regent graded slightly better than Thatcher or Apex. The two latter varieties tied in commercial grades. There was little difference between the grades of Pelissier and Mindum, although of the two Mindum was slightly superior. **Leaf Rust.**—Thatcher was the most heavily infected variety. Marquis and Apex showed somewhat less infection than Thatcher, but more than Renown. Regent was decidedly less infected than the other bread wheat varieties. Pelissier showed slightly more infection than Mindum. **Smut.**—No loose or covered smut appeared on any varieties. **Shattering.**—No loss from shattering was shown on any variety.

General Results.—Thatcher outyielded Marquis by a difference of only .9 bushel and the latter variety excelled in bushel weight. It must be remembered, however, that the major portion of this area has in the past suffered severely from stem rust infection, and apart from the extreme western part of the zone, the use of Marquis would be an extremely dangerous procedure. Of the other bread wheat varieties, Apex outyielded both Renown and Regent, although both of the latter varieties were superior to Apex in straw strength, bushel weight and commercial grades. Thatcher and Apex are the two varieties officially recommended for the whole of this zone.

ZONE 3

Only one test was available in Zone 3. The results of this test will be found on Page 46.

VARIETAL PERFORMANCE

Varieties listed in Alphabetical Order

Bread Wheat

APEX

Yield.—In Zone 1 Apex tied with Regent and both these varieties were outyielded by Thatcher. In Zone 2 Apex was outyielded by Marquis and Thatcher. Generally, however, Apex ranked second in yielding ability. **Earliness.**—In Zone 1 Apex exceeded Marquis, but was exceeded by all other varieties. In Zone 2 Apex and Renown tied and were the earliest maturing varieties. Taking the tests as a whole Apex exceeded Marquis but was later than all other varieties by small differences. **Height.**—Considerable variations occurred in the different zones, but Apex proved quite satisfactory in this characteristic. In general Apex tied with Thatcher and exceeded Regent, but was shorter than Renown and Marquis by .1 inch and 1.8 inches respectively. **Straw Strength.**—Apex was somewhat inferior to all other varieties, although in Zone 1 it tied with Regent. **Bushel Weight.**—Apex was exceeded by Renown and Marquis in Zone 1 and by all varieties in Zone 2. However, the weight of Apex was quite satisfactory. Taking the tests as a whole it ranked third, being exceeded by Renown and Marquis by .9 pound and 1.0 pounds respectively. **Grades.**—Apex was inferior to all other varieties in commercial grades, but nevertheless the grades placed on Apex were relatively satisfactory. **1942 Results and 1943 Official Recommendations.**—Apex showed to best advantage in Zone 1, having yielded quite well and possessing satisfactory bushel weight. It also proved to be well worth consideration in Zone 2. Apex is officially recommended for use in the greater parts of these zones.

MARQUIS

Yield.—Marquis yielded very satisfactorily, ranking third in Zone 1 and second in Zone 2. Taking the tests as a whole Marquis ranked fourth, being outyielded by Regent, Apex, and Thatcher by .1 bushel, .3 bushel and 4.2 bushels respectively. **Earliness.**—Marquis was the latest maturing variety in all zones and was generally exceeded by the other varieties by differences ranging from 1.4 days to 2.7 days. **Height.**—Marquis was the tallest variety in all zones. Taking the tests as a whole it exceeded the other varieties by differences ranging from 1.7 inches to 2.1 inches. **Straw Strength.**—Marquis was very satisfactory in this characteristic, ranking second to Thatcher. **Bushel Weight.**—Marquis showed very good weight, having exceeded all other varieties. An average over the entire project shows that it outweighed the other varieties by differences as follows: Renown .1 lb., Apex 1.0 lb., and Regent and Thatcher 1.2 lbs. **Grades.**—Marquis excelled, 76.4% being placed in the grades 1 Hd., 1°, and 2°. **1942 Results and 1943 Official Recommendations.**—Marquis made its best showing in Zone 2, ranking second to Thatcher in yield and possessing very satisfactory bushel weight and commercial grades. Marquis can be grown successfully in the extreme western section of Zone 2, extending along the Alberta boundary, but even here it is no longer officially recommended. Due to the severe rust epidemics that have occurred in the central and eastern parts of Zone 2, Marquis is an unsuitable variety for use in these areas.

REGENT

Yield.—Regent tied with Apex in Zone 1 and these varieties outyielded Renown and Marquis by .7 bushel and .9 bushel respectively. Generally Regent ranked third, being outyielded by Apex and Thatcher. **Earliness.**—Regent exceeded both Apex and Marquis in Zone 1 and exceeded Marquis in Zone 2. Taking the tests as a whole Regent ranked third. **Height.**—Regent tied with Renown in Zone 1 but these varieties were exceeded by all other varieties. In Zone 2 Regent was the shortest variety. Generally Regent was exceeded by all varieties by differences ranging from .3 inch to 2.1 inches.

Straw Strength.—Regent proved quite satisfactory in this characteristic, having tied with Apex in Zone 1 and showing a marked superiority over Apex in Zone 2. Generally Regent exceeded Apex but was exceeded by all other varieties by slight differences. **Bushel Weight.**—Regent tied with Thatcher in Zone 1 and exceeded Thatcher and Apex in Zone 2. An average over the entire project shows that Regent tied with Thatcher but these varieties were exceeded by all others. **Grades.**—Regent was quite satisfactory in commercial grades, 88.2% entering into the grades 1 Hd. to 3°. **1942 Results and 1943 Official Recommendations.**—Regent made its best showing in Zone 1 where it equalled Apex in yield. It was also high in bushel weight and commercial grades. It also proved comparatively satisfactory in Zone 2 and has been officially recommended for use in parts of that zone.

RENOWN

Yield.—Renown was the lowest yielding variety in all zones. An average over the entire project shows that it was outyielded by the other varieties by differences ranging from .8 bushel to 5 bushels. **Earliness.**—Renown exceeded all varieties in Zone 1 and tied with Apex as the earliest maturing variety in Zone 2. In general it exceeded the other varieties by differences ranging from .3 day to 2.7 days. **Height.**—In Zone 1 Renown tied with Regent, these being the shortest varieties. However, in Zone 2 Renown ranked second to Marquis, exceeding all other varieties. Generally, Renown ranked second to Marquis, being taller than the other varieties by slight differences. **Straw Strength.**—Some variation occurred in the different zones, but generally Renown was quite satisfactory, being superior to Regent and Apex. **Bushel Weight.**—Renown showed comparatively good weight, ranking second to Marquis in all zones. Generally Renown exceeded Thatcher, Apex, and Regent by small differences. **Grades.**—Renown was high in commercial grades, 94.1% being placed in the grades 1 Hd. to 3°. **1942 Results and 1943 Official Recommendations.**—Although Renown was low in yield in both zones it proved to be the earliest maturing variety, possessed good bushel weight, and graded well. It is not, however, officially recommended for use in any zone.

THATCHER

Yield.—Thatcher excelled in yield in both zones. An average over the entire project shows that Thatcher outyielded the other varieties by differences ranging from 3.9 bushels to 5 bushels. **Earliness.**—Thatcher was exceeded by Renown in Zone 1 by a slight difference of .2 day. In Zone 2 Thatcher tied with Regent and these varieties were exceeded by Apex and Renown by 1 day. Generally Thatcher ranked second to Renown in its maturity period. **Height.**—Thatcher showed its best comparative height in Zone 1 where it ranked second to Marquis. In Zone 2 it exceeded Regent but was exceeded by all other varieties. Taking the tests as a whole Thatcher exceeded Regent and tied with Apex, but was exceeded by Renown and Marquis. **Straw Strength.**—Thatcher was very satisfactory in this characteristic, having exceeded all other varieties. **Bushel Weight.**—Thatcher tied with Regent in Zone 1 but was exceeded by all other varieties. In Zone 2 Thatcher exceeded Apex, but was again exceeded by all other varieties. In general Thatcher tied with Regent but was outweighed by the other varieties by differences ranging from .2 lb. to 1.2 lbs. **Grades.**—Thatcher graded quite well throughout the project, 82.2% being placed in the grades 1° to 3°. **1942 Results and 1943 Official Recommendations.**—From the results of this project Thatcher definitely proved to be one of the leading varieties for use in both zones. It has also been officially recommended for use in all the zones of the province.

Durum Wheat

MINDUM

Yield.—Mindum was exceeded by Pelissier in both zones and over the entire project Mindum was outyielded by Pelissier by a difference of 5.5 bushels. **Earliness.**—Mindum exceeded Pelissier in its maturity period. Gen-

erally the difference was shown as 1.3 days. **Height**.—Mindum was the taller of the two varieties. An average over the entire project shows Mindum as being taller than Pelissier by a difference of .7 inch. **Straw Strength**.—Mindum was fairly satisfactory in this characteristic, but was exceeded by Pelissier in both zones. **Bushel Weight**.—Mindum was superior to Pelissier and in general outweighed Pelissier by .5 pound. **Grades**.—Mindum was slightly superior in commercial grades, 88.2% being graded 1 C.W. to 3 C.W. **1942 Results and 1943 Official Recommendations**.—Although Mindum was slightly superior to Pelissier in commercial grades, this advantage would not altogether offset the advantage Pelissier showed in yield. The results of this project would indicate that in general Mindum was inferior to Pelissier. No official recommendations for durums have been made by zones but Mindum is mentioned as being less drought resistant than Pelissier.

PELISSIER

Yield.—Pelissier was superior to Mindum in yielding ability in both zones. Generally the difference between Pelissier and Mindum appears as 5.5 bushels. **Earliness**.—Pelissier was exceeded by Mindum in Zone 1 by .3 day and in Zone 2 by 6.5 days. **Height**.—Pelissier was inferior to Mindum. Taking the tests as a whole Pelissier was exceeded by Mindum by .7 inch. **Straw Strength**.—Pelissier was satisfactory in this characteristic and exceeded Mindum in both zones. **Bushel Weight**.—Pelissier was comparatively high in bushel weight, but in general it was exceeded by Mindum by a small difference of .5 pound. **Grades**.—Pelissier graded well throughout the project 70.5% being placed in the commercial grades 1 C.W. to 3 C.W. **1942 Results and 1943 Official Recommendations**.—Pelissier by its superiority in yield as well as possessing relatively good bushel weight and commercial grades, proved well worth consideration for use in the areas where durum wheat can be grown successfully. In the official recommendations Pelissier is mentioned as being more drought resistant than Mindum.

TABLE NO. 25
Individual Summarized Results for All Tests—WHEAT

WHEAT POOL DISTRICT 1

* Cereal variety	Sub-zone	Test dist.	Test design- nation	Yield Varieties	bus. per acre	Plant height in inches	Days seed- ripening to strength	Straw strength	Lbs. per bushel	Commercial grades	Grading remarks
ROBERT GORDON ASKIN, ARCOLA											
3A	1	9	B	Thatcher	34.0	38.0	103	9.0	63.0	2 No.	
..	Apex	27.0	39.0	106	5.0	60	3 No.	
..	Renown	35.4	40.0	102	9.0	63	2 No.	
..	Regent	28.2	39.0	102	9.0	62	2 No.	
..	Marquis	21.9	37.0	113	10.0	62	3 No.	
..	Pelissier	25.6	43.0	113	7.0	63	2 CW	
..	Mindum	35.3	49.0	112	6.0	66	1 CW	

No significant grain yield difference between varieties.

WHEAT POOL DISTRICT 3

WILLARD ANDREW ANDERSON, FRONTIER											
1A	3	4	B	Thatcher	43.0	42.0	110	9.0	63.0	1 No.	
..	..	..	..	Apex	32.6	39.0	112	9.0	61.0	1 No.	
..	..	..	..	Renown	30.8	39.0	110	8.0	62.0	2 No.	
..	..	..	..	Regent	25.0	40.0	110	8.0	60.0	2 No.	
..	..	..	..	Marquis	31.0	41.0	114	9.0	63.5	1 No.	
..	..	..	..	Pelissier	36.8	42.0	117	10.0	65.5	2 CW	
..	..	..	..	Mindum	26.6	37.0	117	10.0	65.5	1 CW	

Necessary difference—7.8 bushels.

MERVIN ORLAND ANDERSON, ROBSART

MERVIN ORLAND ANDERSON, ROBSART											
1A	3	5	B	Thatcher	14.0	....	....	....	61.0	2 No.	Bl.
..	..	..	..	Apex	13.8	....	....	....	62.0	2 No.	Bl.
..	..	..	..	Renown	16.0	....	....	....	62.0	3 No.	Bl. F.
..	..	..	..	Regent	11.5	....	....	....	63.0	4 No.	Bl. F.
..	..	..	..	Marquis	18.6	....	....	....	60.0	5	Bl. F.
..	..	..	..	Pelissier	20.7	....	....	....	59.0	5 CW	F.
..	..	..	..	Mindum	13.3	....	....	....	60.0	4 CW	F.

No significant grain yield difference between varieties.

FRANK EARNEST REBBECK, SOUTHFORK

FRANK EARNEST REBBECK, SOUTHFORK											
1A	3	7	B	Thatcher	35.0	34.0	118	8.7	61.0	2 No.	Bl.
..	..	..	..	Apex	29.8	35.0	118	5.0	61.0	2 No.	Bl. F.
..	..	..	..	Renown	27.8	34.0	120	8.7	63.5	2 No.	Bl. F.
..	..	..	..	Regent	29.6	34.0	122	6.0	61.0	2 No.	Bl.
..	..	..	..	Marquis	31.1	40.0	128	8.0	64	3 No.	G. F.
..	..	..	..	Pelissier	46.5	48.0	135	8.0	64	4 CW	F.
..	..	..	..	Mindum	38.4	51.0	135	9.0	65.5	1 CW	

Necessary difference—2.1 bushels.

JOHN CHEDZEY MAYO, HAZENMORE

JOHN CHEDZEY MAYO, HAZENMORE											
1A	3	10	B	Thatcher	26.0	30.0	111	7.3	61.0	2 No.	
..	..	..	..	Apex	25.3	32.0	110	6.7	62.5	2 No.	
..	..	..	..	Renown	14.9	30.0	114	9.3	63.5	2 No.	
..	..	..	..	Regent	13.7	31.0	113	5.7	62.0	2 No.	
..	..	..	..	Marquis	18.4	33.0	110	6.3	63.5	3 No.	
..	..	..	..	Pelissier	18.3	46.0	121	7.0	65.0	3 CW	
..	..	..	..	Mindum	25.3	43.0	114	6.7	66.5	2 CW	

No significant grain yield difference between varieties.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes
3 3 B Clarence Melvin Aadland, Chambury

WHEAT POOL DISTRICT 4

FRANK WHITE, MAPLE CREEK											
1B	4	2	B	Thatcher	54.6	40	117	9.3	64.5	1 No.	
..	..	..	..	Apex	53.5	42	117	8.3	65	1 No.	
..	..	..	..	Renown	49.3	41	118	8.0	65.5	1 Hd.	
..	..	..	..	Regent	51.5	42	117	8.0	65	1 Hd.	
..	..	..	..	Marquis	48.8	42	117	8.0	65.5	3 No.	
..	..	..	..	Pelissier	60.2	50	119	6.0	66.5	1 CW	
..	..	..	..	Mindum	54.9	55	119	5.0	68.0	1 CW	

Necessary difference—5.7 bushels.

* Soil climatic zones mentioned in the discussion are designated by the figures appearing under the heading of Cereal Variety Zone.

Wheat Pool District 4—Continued

Cereal variety zone	Sub- dist.	Test desig- nation	Yield bus. Varieties	Plant per acre	Days seed- ing to Straw ripening	Lbs. per bushel	meas- ured			Grading remarks
							Days in inches	Straw strength	Commercial grades	

SELMER MERLE ASLAKSON, PENNANT

1A	4	5	B	Thatcher	26.2	33	104	10	63	3 No.	G. Sh.
"	"	"	"	Apex	27.8	32	109	9	64	2 No.	G. I.
"	"	"	"	Renown	26.2	33	106	9.3	63	2 No.	G. Sh.
"	"	"	"	Regent	33.8	35	102	9	61	3 No.	G. Sh.
"	"	"	"	Marquis	27.3	34	108	10	64	3 No.	G. Sh.
"	"	"	"	Pelissier	27.9	41	123	9	66	2 CW	Bl.
"	"	"	"	Mindum	24.4	42	125	9	66	2 CW	Bl.

No significant grain yield difference between varieties.

ULRICH THEODORE HERMAN HAMMER, GOLDEN PRAIRIE

1B	4	6	B	Thatcher	30.7	36	103	8	56	4 No.	Lw. Bl.
"	"	"	"	Apex	19.8	33	103	8	55.5	4 No.	Lw. Bl.
"	"	"	"	Renown	24.1	31	101	6.3	57	3 No.	Lw.
"	"	"	"	Regent	19.8	34	104	9	52.5	5	V. Lw.
"	"	"	"	Marquis	19.6	31	105	10	58.5	2 No.	Lw.
"	"	"	"	Pelissier	26.5	38	105	10	64.5	1 CW	
"	"	"	"	Mindum	17.6	35	104	9	64.0	1 CW	

No significant grain yield difference between varieties.

ARCHE ALLEN MACPHAIL, LINACRE

1B	4	7	B	Thatcher	....	40	104	9	....	....	....
"	"	"	"	Apex	....	40	104	9	....	....	....
"	"	"	"	Renown	....	40	104	9	....	....	....
"	"	"	"	Regent	29.7	40	104	9	64.0	1 No.	
"	"	"	"	Marquis	....	40	104	9	....	....	....
"	"	"	"	Pelissier	....	40	104	9	....	....	....
"	"	"	"	Mindum	3.0	40	104	9	59.0	3 CW	

Samples incomplete.

ARTHUR OSTER, FOX VALLEY

1B	4	7	C	Thatcher	4.3	25	....	10	58.0	3 No.	Bl. F.
"	"	"	"	Apex	5.3	26	....	10	59.0	4 No.	F.I.
"	"	"	"	Renown	2.6	28	....	10	58.0	3 No.	
"	"	"	"	Regent	5.6	26	....	10	57.0	3 No.	Lw.
"	"	"	"	Marquis	5.0	30	....	10	59.0	4 No.	F.I.
"	"	"	"	Pelissier	3.3	30	....	10	60.0	2 CW	
"	"	"	"	Mindum	1.4	29	....	10	60.0	2 CW	

Samples buiked.

HERBERT FREDERICK, BURSTALL

1B	4	8	B	Thatcher	26.7	30	106	9	59.0	2 No.	Bl. T.
"	"	"	"	Apex	22.5	24	106	9	59.0	2 No.	Lw.
"	"	"	"	Renown	23.6	28	106	9	60.0	1 No.	
"	"	"	"	Regent	26.6	23	106	9	58.5	2 No.	Lw.
"	"	"	"	Marquis	24.2	24	106	9	58.5	2 No.	Lw.
"	"	"	"	Pelissier	30.0	25	106	9	60.0	2 CW	Lw.
"	"	"	"	Mindum	20.1	27	106	9	58.5	3 CW	Lw.

Necessary difference—3.1 bushels.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes
2C 4 3 B John David Dyck, Wymark

WHEAT POOL DISTRICT 5

NEIL R. MARJERISON, NEVILLE

2C	5	3	B	Thatcher	39.1	31	104	9	64	4 No.	V.G.
"	"	"	"	Apex	27.7	30	105	8	63	4 No.	V.G.
"	"	"	"	Renown	25.6	31	104	9	65	3 No.	I.
"	"	"	"	Regent	27.9	30	105	6	64	3 No.	G.
"	"	"	"	Marquis	36.2	33	109	8	65	4 No.	V.G.
"	"	"	"	Pelissier	44.1	36	113	9	64.5	4 CW	I.G.
"	"	"	"	Mindum	28.6	36	113	7	66	3 CW	I.

Necessary difference—5.1 bushels.

Wheat Pool District 5—Continued

Cereal variety zone	Sub- Dist.	Test desig- nation	Varieties	Yield per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Lbs. per bushel	Lbs. per meas- ure		Commercial grades	Grading remarks
									bus.	seed-		
HAROLD LLOYD McBRIDE, CARON												
1A	5	7	B	Thatcher	27.3	40	107	...	61.5	2 No.	G.I.	
..	Apex	22.9	41	108	...	62.0	2 No.	G.I.	
..	Renown	30.5	42	105	...	63.0	2 No.	G.I.	
..	Regent	25.8	38	107	...	63.0	2 No.	G.I.	
..	Marquis	26.8	38	106	...	64.0	2 No.	G.I.	
..	Pelissier	...	...	106	...	...	...
..	Mindum	...	...	107	...	...	...

Yields incomplete.

AUSTEN EDGAR HATLEY, LAWSON

1A	5	9	B	Thatcher	12.0	15	...	...	60.0	2 No.	Bl.
..	..	..	..	Apex	12.8	15	...	...	61.5	1 No.	
..	..	..	..	Renown	7.4	15	...	...	62.0	1 No.	
..	..	..	..	Regent	10.2	15	...	...	59.5	2 No.	
..	..	..	..	Marquis	14.3	15	...	...	61.5	1 No.	
..	..	..	..	Pelissier	22.5	18	...	...	62.0	1 CW	
..	..	..	..	Mindum	22.8	18	...	...	61.0	2 CW	

Necessary difference—3.2 bushels.

HERBERT ARTHUR YOUNG, LOG VALLEY

1A	5	10	B	Thatcher	37.0	36	...	10	61	2 No.	Bl.
..	..	..	..	Apex	35.3	36	...	9.3	64.5	1 No.	
..	..	..	..	Renown	34.6	35	...	10	64.5	2 No.	I.
..	..	..	..	Regent	39.2	36	...	10	63.0	2 No.	Bl.
..	..	..	..	Marquis	35.3	38	...	10	64.0	2 No.	G.I.
..	..	..	..	Pelissier	42.6	44	...	8.3	63.0	4 CW	F.
..	..	..	..	Mindum	40.5	47	...	7.3	66	2 CW	F.

Necessary difference—4.3 bushels.

WHEAT POOL DISTRICT 6

DONALD WILSON SMITH, BOHARM

1A	6	5	B	Thatcher	41.1	33	98	9.3	62.5	2 No.	Pk. I.
..	..	..	..	Apex	35.7	34	102	7.7	63.0	2 No.	G.I.
..	..	..	..	Renown	41.3	33	98	8.7	64	2 No.	G.I.
..	..	..	..	Regent	44.4	31	102	8.3	64	2 No.	G.I.
..	..	..	..	Marquis	37.0	36	99	8.3	64	2 No.	G.I.
..	..	..	..	Pelissier	52.5	42	112	6.7	65.0	1 CW	
..	..	..	..	Mindum	40.2	47	102	5.7	64.0	1 CW	

No significant yield difference between varieties.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

6	2	B	Peter Klotz, Davin
6	7	B	James Anderson Farley, Grand Coulee
6	10	B	Donald Binnie, Tregarva
7	7	B	Miss Grace Louisa Russell, Broadview

WHEAT POOL DISTRICT 10

GORDON ANGUS McEWAN, RIVERHURST

1A	10	2	B	Thatcher	31.7	34	134	9	61	4 No.	
..	..	..	..	Apex	24.9	35	135	7.7	62	5	G.
..	..	..	..	Renown	22.6	37	137	9	61	4 No.	
..	..	..	..	Regent	29.5	36	129	7.7	62	3 No.	
..	..	..	..	Marquis	21.9	36	134	8.7	60	4 No.	G. Sh.
..	..	..	..	Pelissier	23.1	44	146	8	58	6 CW	G. Sh.
..	..	..	..	Mindum	14.2	45	146	9	55.5	6 CW	G. Sh.

Necessary difference—6.9 bushels.

LEO ERNEST BERTOLO, WISETON

1A	10	4	B	Thatcher	54.3	44	...	9	65	1 No.	
..	..	..	..	Apex	46.4	44	...	9	64	2 No.	
..	..	..	..	Renown	46.2	44	...	9	65.5	2 No.	
..	..	..	..	Regent	49.7	44	...	9	65	2 No.	I.
..	..	..	..	Marquis	33.3	44	...	9	66	2 No.	
..	..	..	..	Pelissier	51.7	57	...	9	66.5	2 CW	
..	..	..	..	Mindum	49.1	57	...	9	67.5	2 CW	

No significant yield difference between varieties.

Wheat Pool District 10—Continued

Cereal variety zone	Sub- dist.	Test desig- nation	Varieties	Yield per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Lbs. per bushel	Lbs. per meas- ure		Commercial grades	Grading remarks
									LEONARD	JOSEPH	SHIRLEY	KOZA,	IMPERIAL
2B	10	8	B	Thatcher	22.0	31	113	9	61	2 No.		B1.
"	"	"	"	Apex	24.5	33	110	4.5	60.5	2 No.		B1.
"	"	"	"	Renown	21.8	32	111	7.5	62.5	1 No.		
"	"	"	"	Regent	21.8	33	112	9	62.5	2 No.		B1.
"	"	"	"	Marquis	23.0	35	111	8.7	63	1 No.		
"	"	"	"	Pelissier	22.4	36	122	9	66	1 CW		
"	"	"	"	Mindum	23.2	41	109	7.5	65	1 CW		

Samples bulked.

WHEAT POOL DISTRICT 11

MISS JEAN EPHANIA KANASEVICH, EATONIA												
1B	11	3	B	Thatcher	37	90	10.0	...	...	...	...
"	"	"	"	Apex	38.0	38	89	8.3	60.5	1 No.		
"	"	"	"	Renown	...	39	88	10.0	...	...	...
"	"	"	"	Regent	48.3	37	86	9.0	62.0	1 No.		
"	"	"	"	Marquis	21.9	39	91	9.3	63.0	1 No.		
"	"	"	"	Pelissier	39.1	43	99	4.3	62.5	2 CW		
"	"	"	"	Mindum	43.2	45	92	6.0	64.5	1 CW		F.

Samples bulked.

CHARLES ROBERT DOUGLAS, EYRE												
1B	11	4	B	Thatcher	24.1	31	99	9	61	2 No.	B1.	
"	"	"	"	Apex	23.7	30	100	9	62	2 No.	B1.	
"	"	"	"	Renown	23.8	33	99	9	63	2 No.	B1.	
"	"	"	"	Regent	22.7	34	99	9	61	2 No.	B1.	
"	"	"	"	Marquis	23.2	33	100	9	64.5	2 No.	B1.	
"	"	"	"	Pelissier	22.0	33	105	9	64	3 CW	F.	
"	"	"	"	Mindum	23.8	34	100	9	66.5	1 CW		

No significant yield difference between varieties.

REGINALD EVANS, FISKE												
1A	11	8	B	Thatcher	43.6	36	119	9	64	1 No.		
"	"	"	"	Apex	39.6	37	118	9	64	1 No.		
"	"	"	"	Renown	43.9	37	119	8.7	65.5	1 No.		
"	"	"	"	Regent	41.6	37	119	8	64	2 No.	F.	
"	"	"	"	Marquis	42.4	38	120	9	64.5	3 No.	G.F.	
"	"	"	"	Pelissier	51.8	44	120	7	65.5	3 CW	F.	
"	"	"	"	Mindum	46.5	46	120	7	66	1 CW		

Necessary difference—5.7 bushels.

EDWARD ABT, FUSILLIER												
1B	11	10	B	Thatcher	30.7	...	...	...	59.0	2 No.	B1.
"	"	"	"	Apex	21.2	...	...	...	59.0	2 No.	T.
"	"	"	"	Renown	19.0	...	...	...	61.0	1 No.	
"	"	"	"	Regent	25.7	...	...	...	59.0	3 No.	B1. T.
"	"	"	"	Marquis	25.5	...	...	...	61.5	2 No.	G.I.
"	"	"	"	Pelissier	35.0	...	...	...	63.0	2 CW	F.
"	"	"	"	Mindum	23.1	...	...	...	64.0	1 CW	

Necessary difference—7.4 bushels.

RICHARD STANLEY HICKSON, KINDERSLEY												
1A	11	6	B	Thatcher	30.5	35	116	10	60.5	2 No.	B1.	
"	"	"	"	Apex	24.6	37	120	8	61.5	2 No.	F.	
"	"	"	"	Renown	23.0	34	108	9	62.5	2 No.	F.	
"	"	"	"	Regent	24.9	35	119	7	61.0	1 No.		
"	"	"	"	Marquis	28.1	40	122	8	61.5	3 No.	F.	
"	"	"	"	Pelissier	32.3	48	104	7	61.0	3 CW	F.	
"	"	"	"	Mindum	22.0	45	110	6	61.0	2 CW	F.	

Necessary difference—3.3 bushels.

Tests Discarded on Account of Severe Damage by Drought, Pests, Hail or Other Causes

1A 11 1 B Miss Anna Gaensly, Matador

Oats

TABLE NO. 26.—AVERAGE YIELD IN BUSHELS PER ACRE
SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax	Necessary difference
1.....	4	39.3	60.0	55.6	60.6	51.1	60.0	51.3	12.7
2.....	5	62.3	79.5	70.5	75.0	70.5	85.3	78.7	*
3.....	9	48.9	73.0	70.2	72.7	69.2	81.8	75.8	11.2

* No significant grain yield difference between varieties.

YIELD

Table No. 26 shows the average yield of each oat variety arranged in soil climatic zones. As it will be seen, Exeter excelled in Zones 2 and 3. In Zone 1 Exeter tied with Vanguard, and these varieties yielded only .6 bushel less than Banner, the highest yielding variety in the zone. In general Vanguard ranked second to Exeter, although in Zone 3 it was outyielded by both Exeter and Ajax. Banner exceeded Ajax in Zone 1, but in the other two zones the position was reversed. Gopher was outyielded by all varieties with the exception of Valor, which was the lowest yielder in each zone.

AVERAGE NUMBER OF DAYS FROM SEEDING TO RIPENING
SUMMARIZED IN SOIL CLIMATIC ZONES

Due to the prevalence of second-growth in many of the varieties, it was difficult for the co-operators to give accurate information in connection with comparative maturity periods. Therefore, no discussion on this characteristic is given in this report. However, other tests made in both 1941 and 1942 have shown Valor to be very early maturing, Ajax and Gopher to be early, Vanguard to be moderately early and Victory, Banner and Exeter to be moderately late.

TABLE NO. 27.—HEIGHT OF PLANTS IN INCHES SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax
1.....	4	35.0	39.0	37.1	35.5	27.5	36.5	35.5
2.....	5	33.1	36.4	40.9	38.6	33.8	37.7	37.7
3.....	9	38.5	43.5	46.4	48.4	38.3	44.2	43.8

HEIGHT OF PLANTS

The average height in inches of each variety is shown in Table No. 27. As will be observed, considerable variation occurred between the varieties in the different zones. In general, all varieties showed good height, although in Zone 1 Gopher was decidedly shorter than the other varieties. Taking the tests as a whole, Banner and Victory tied, and were taller than the other varieties by the following differences: Exeter 2.3 inches; Vanguard 2.6 inches; Ajax 2.6 inches; Valor 6.9 inches, and Gopher 8.0 inches.

TABLE NO. 28.—STRAW STRENGTH SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax
1.....	9.0	9.8	10.0	10.0	6.0	8.5	6.6
2.....	7.5	7.3	6.9	7.4	7.7	7.6	7.8
3.....	7.1	7.2	6.4	6.3	6.9	6.3	6.6

STRAW STRENGTH

Straw strength was reported on the basis 0 to 10 as in the wheat tests, and the summarized results are shown in Table No. 28. The heavy stand and the extensive lodging which occurred in nearly all areas made the task

of estimating straw strength an extremely difficult one, and considerable variation occurred between the varieties in the different zones. Taking the test as a whole, however, it would appear that Vanguard excelled in this characteristic. Valor, Banner, Victory and Exeter were also reasonably satisfactory in most zones. Ajax was comparatively satisfactory in Zones 2 and 3, but in Zone 1 it showed weakness in straw. In Zones 2 and 3 Gopher was comparatively satisfactory. In Zone 1, however, it was inferior to all varieties.

TABLE NO. 29.—AVERAGE BUSHEL WEIGHT SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax
1.....	4	38.5	39.1	39.9	38.5	39.9	39.1	40.0
2.....	5	37.0	36.4	38.5	35.8	36.9	37.6	36.5
3.....	9	35.7	35.8	36.4	34.7	36.2	35.6	36.8

WEIGHT PER MEASURED BUSHEL

Table No. 29 shows the average weight per measured bushel arranged in soil climatic zones. All weights were taken on cleaned samples. Variations were noticeable in the different zones, but all varieties showed relatively good bushel weight. Victory appeared to distinct advantage in Zone 2 and weighed comparatively well in the other zones. Ajax excelled in Zones 1 and 3, but in Zone 2 it was outweighed by a number of other varieties. Banner was relatively low in all zones. The comparative weights of the other varieties varied in the different zones. A general average of all tests showed that Victory averaged 37.8 pounds and outweighed the other varieties by the following differences: Ajax .4 pound; Gopher .6 pound; Exeter .9 pound; Valor and Vanguard 1.1 pounds; and Banner 2.0 pounds.

ZONE 1

TABLE NO. 30.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 1

	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax
Yield in bushels per acre	39.3	60.0	55.6	60.6	51.1	60.0	51.3
Days from seeding to ripening	93.0	89.0	91.0	90.0	88.5	90.5	87.5
Height of plant in inches	35.0	39.0	37.1	35.5	27.5	38.5	35.5
Straw strength	9.0	9.8	10.0	10.0	6.0	8.5	6.6
Bushel weight in pounds	38.5	39.1	39.9	38.5	39.9	39.1	40.0
Commercial grades in percentage:—							
2 CW	50	75	50	50	50	25	75
3 CW	50	25	50	..	25	50	25
1 Fd.	..	..	..	50	25	..	..
2 Fd.	..	..	..	..	..	25	..

Necessary difference 12.7 bushels.

Yield.—Banner excelled, but the difference between this variety and Vanguard and Exeter was only .6 pound. Showing an average yield of 60.6 bushels per acre, however, Banner exceeded the other varieties by differences as follows: Victory 5.0 bushels; Ajax 9.3 bushels; Gopher 9.5 bushels; Valor 21.3 bushels. **Earliness.**—Owing to the second growth which appeared in Valor, co-operators were unable to give accurate information in connection with the maturity period of this variety, and because of this, in these results, no consideration is given to the ripening dates of Valor. A comparison of the remaining six varieties shows that Ajax matured in 87.5 days, and exceeded the other varieties by the following differences: Gopher 1 day, Vanguard 1.5 days, Banner 2.5 days, Exeter 3 days and Victory 3.5 days. **Height.**—Vanguard excelled, exceeding the other varieties by differences as follows: Victory 1.9 inches, Exeter 2.5 inches, Banner 3.5 inches, Valor 4 inches and Gopher 11.5 inches. **Straw Strength.**—Victory and Banner appeared to be quite satisfactory in this characteristic, and these varieties were slightly superior to Valor, Vanguard and Exeter. Gopher and Ajax showed

a marked inferiority in straw strength. **Bushel Weight.**—While Ajax excelled, it exceeded Gopher and Victory by only .1 pound. Ajax, however, outweighed the other varieties by the following differences: Vanguard and Exeter .9 pound, Valor and Banner 1.5 pounds. **Grades.**—Some green and weathered kernels were in evidence, but Ajax and Valor appeared to show less defects than the other varieties. Ajax and Vanguard tied and graded better than any of the other varieties. Victory and Valor also tied and ranked second in grades. The grades placed on the Gopher variety were somewhat better than the grades of Banner. Exeter was inferior in commercial grades to any of the other varieties. **Crown Rust.**—All varieties showed more or less equal infection. **Smut.**—With the exception of Exeter which showed a small amount of infection, all varieties were free. **Shattering.**—Banner and Exeter were the only varieties that showed any loss, and this loss was only of a slight nature.

General Results.—Banner excelled in yield and while it was somewhat exceeded in bushel weight and commercial grades by some of the other varieties, in most characteristics it appeared to be reasonably satisfactory. Banner is officially recommended throughout the zone. In this test Vanguard also appeared to be satisfactory, although this variety is not included in the official recommendations. Exeter yielded comparatively well but it appeared too weak in the straw, and in some tests the grades placed on this variety were poor. Exeter is also omitted from the list of official recommendations.

ZONE 2

TABLE NO. 31.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 2

	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax
Yield in bushel per acre	62.3	79.5	70.5	75.0	70.5	85.3	78.7
Days from seeding to ripening	99.6	108.0	110.3	110.3	102.6	110.3	103.3
Height of plant in inches	33.1	36.4	40.9	38.6	33.8	37.7	37.7
Straw strength	7.5	7.3	6.9	7.4	7.7	7.6	7.8
Bushel weight in pounds	37.0	36.4	38.5	35.8	36.9	37.6	36.5
Commercial grades in percentage:—							
2 CW	20	..	20	20	..	..	..
3 CW	60	80	20	60	40	60	60
X1 Fd.	..	..	20	..	..	20	..
1 Fd.	20	20	40	..	40	..	40
2 Fd.	..	..	..	20	20	20	..

No significant grain yield difference between varieties.

Yield.—In this zone Exeter excelled, outyielding the other varieties by the following differences: Vanguard 5.8 bus., Ajax 6.6 bus., Banner 10.3 bus., Gopher and Victory 14.8 bus., and Valor 23.0 bus. **Earliness.**—Valor exceeded the other varieties in earliness by differences as follows: Gopher 3 days, Ajax 3.7 days, Vanguard 8.4 days, Victory, Banner and Exeter 10.7 days. **Height.**—Victory exceeded all other varieties by the following differences: Banner 2.3 inches, Exeter and Ajax 3.2 inches, Vanguard 4.5 inches, Gopher 7.1 inches, and Valor 7.8 inches. **Straw Strength.**—Although Ajax was superior in this characteristic, the differences between any of the varieties was only of a slight nature. **Bushel Weight.**—With an average weight of 38.5 lbs., Victory exceeded the other varieties by differences as follows: Exeter .9 lb., Valor 1.5 lbs., Gopher 1.6 lbs., Ajax 2 lbs., Vanguard 2.1 lbs., Banner 2.7 lbs. **Grades.**—Some green and weathered kernels appeared in a number of samples, but Valor and Ajax appeared to have less defects than the other varieties. Valor excelled in commercial grades. In general there was little difference in the grades of Vanguard, Victory and Banner. The grades of Exeter and Ajax showed no outstanding difference, while Gopher graded somewhat lower than the other varieties. **Crown Rust.**—The infection on all varieties was more or less equal. **Smut.**—Exeter showed somewhat more infection than the other varieties. Vanguard, Banner, Gopher and Ajax showed only slight infection, while Valor and Victory were free. **Shattering.**—A small and about equal loss was suffered by all varieties.

General Results.—Exeter excelled in yield and had satisfactory bushel weight. It was slightly inferior in commercial grades to some of the other varieties, but relatively satisfactory in all other characteristics. Exeter is mentioned in the Cereal Variety Committee's 1943 recommendations as being a promising new variety not yet recommended for any particular zone. Ajax and Vanguard made a satisfactory showing and they are officially recommended for use in this zone.

ZONE 3

TABLE NO. 32.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 3

	Valor	Vanguard	Victory	Banner	Gopher	Exeter	Ajax
Yield in bushels per acre	48.9	73.0	70.2	72.7	69.2	81.8	75.8
Days from seeding to ripening	98.7	104.7	104.5	107.2	99.5	105.2	103.5
Height of plant in inches	38.5	43.5	46.4	48.4	38.3	44.2	43.8
Straw strength	7.1	7.2	6.4	6.3	6.9	6.3	6.6
Bushel weight in pounds	35.7	35.8	36.4	34.7	36.2	35.6	36.8
Commercial grades in percentage:—							
1 CW	11	..	..	..	..	..	11
2 CW	11	22	34	33	33	22	45
3 CW	56	67	11	33	45	56	33
X1 Fd.	..	..	11	..	..	..	..
1 Fd.	22	..	22	..	22	..	11
2 Fd.	..	11	22	34	..	22	..

Necessary difference 11.2 bushels.

Yield.—Exeter again excelled, outyielding the other varieties by differences as follows: Ajax 6.0 bushels, Vanguard 8.8 bushels, Banner 9.1 bushels, Victory 11.6 bushels, Gopher 12.6 bushels, and Valor 32.9 bushels. **Earliness.**—Owing to the prevalence of second growth in a number of varieties, accurate information in regard to comparative maturity periods is not available. **Height.**—Banner excelled, being taller than the other varieties by differences as follows: Victory 2 inches, Exeter 4.2 inches, Ajax 4.6 inches, Vanguard 4.9 inches, Valor 9.9 inches, and Gopher 10.1 inches. **Straw Strength.**—Vanguard excelled but the differences between any of the varieties were only of a slight nature. **Bushel Weight.**—Ajax excelled, outweighing the other varieties by the following differences: Victory .4 pound, Gopher .6 pound, Vanguard 1 pound, Valor 1.1 pounds, Exeter 1.2 pounds, and Banner 2.1 pounds. **Grades.**—Some green and light-weight kernels appeared in practically all varieties. Ajax excelled in commercial grades. Valor ranked second. Vanguard was slightly superior to Victory, Banner, Gopher and Exeter, all of these varieties being about equal. **Crown Rust.**—A small amount of infection was shown on all varieties except Valor and Vanguard which were free. **Smut.**—Exeter was the only variety showing any infection and it was only of a slight nature. **Shattering.**—Valor showed slightly more loss than the other varieties which were about equal. **General Results.**—Exeter outyielded all other varieties by a marked difference. It possessed satisfactory bushel weight and although it was exceeded in commercial grades by some of the other varieties, this would be offset by its superiority in yield. This variety is listed in the official recommendations as being promising but not yet recommended. Ajax and Vanguard proved satisfactory in this zone and they are officially recommended.

ZONE 4

Only one test was available in Zone 4. The results of this test are shown on page 60.

VARIETAL PERFORMANCE

(Varieties listed in Alphabetical Order)

AJAX

Yield.—Over the whole project Ajax showed an average yield of 71.2 bushels. In this general comparison it was outyielded by Vanguard and Exeter by .7 bus. and 6.7 bus. respectively, but exceeded the other varieties by differences ranging from .5 bus. to 20.7 bus. Ajax showed its best comparative yield in Zone 3. In this zone it excelled, but in the other zones under review it was outyielded by one or two of the other varieties. **Earliness.**—Owing to the prevalence of second growth in a number of varieties, accurate information in regard to comparative maturity periods are not available. However, Ajax is known to be early maturing. **Height.**—Ajax showed good comparative height, but was exceeded by some of the other varieties in all zones. Taking the tests as a whole, Ajax tied with Vanguard and was exceeded by Exeter and Victory by differences of .3 inch and 2.3 inches respectively. **Straw Strength.**—Ajax was most satisfactory in Zone 2 where it excelled. In the other zones it was exceeded by several of the other varieties. Generally Ajax tied with Gopher, but was exceeded by all the other varieties. **Bushel Weight.**—Ajax showed to best advantage in Zones 1 and 3 where it exceeded all other varieties. In Zone 2 it was exceeded by many of the other varieties by small differences. Generally Ajax ranked second, being exceeded by Victory by .4 pound. **Grades.**—Ajax was high in commercial grades, the percentage of each grade being shown as follows: 1 C.W. 5.6%, 2 C.W. 38.9%, 3 C.W. 38.9%, and 1 Fd. 16.6%. **1942 Results and 1943 Official Recommendations.**—Ajax made its best showing in Zones 2 and 3. In Zone 2 Ajax ranked third in yield and was satisfactory in bushel weight and commercial grades. In Zone 3 Ajax ranked second to Exeter in yield and was high in bushel weight and commercial grades. Ajax has been officially recommended for use over the greater part of Zones 2 and 3.

BANNER

Yield.—In Zone 1 Banner excelled, but in Zones 2 and 3 it ranked fourth in yielding ability. Over the three zones the average yield of Banner is shown as 70.7 bus., being outyielded by the following varieties by the differences shown: Ajax .5 bus., Vanguard 1.2 bus., and Exeter 7.2 bus. It exceeded Victory, however, by 3.7 bushels and outyielded Gopher and Valor by 5.2 bushels and 20.2 bushels respectively. **Earliness.**—No comparative data are available. However, Banner is known to be mid-late in maturity. (See remarks under "Ajax"). **Height.**—Banner showed its best comparative height in Zone 3 where it exceeded all other varieties, and in Zone 2 where it ranked second. Taking the tests as a whole, Banner tied with Victory and was taller than the other varieties by differences ranging from 2.3 inches to 8.0 inches. **Straw Strength.**—Banner was relatively satisfactory in all zones. An average over the entire project shows that it tied with Victory and ranked third in this characteristic. **Bushel Weight.**—Banner was slightly inferior to most of the other varieties. It was the lightest variety in Zone 2 and 3 and ranked fourth in Zone 1. An average over the entire project shows that Banner was outweighed by the other varieties by differences ranging from .9 pound to 2.0 pounds. **Grades.**—Banner showed comparatively good grades in all zones. The percentage of the different grades is shown as follows: 2 C.W. 33.4%, 3 C.W. 33.4%, 1 Fd. 11.1%, and 2 Fd. 22.1%. **1942 Results and 1943 Official Recommendations.**—Banner showed to best advantage in Zone 1 where it outyielded all other varieties. It was also quite satisfactory in bushel weight and commercial grades in this zone. Banner showed a fairly good comparative yield in Zones 2 and 3, but was inferior to all the other varieties in bushel weight. Banner has been officially recommended for use throughout all of Zone 1 and in the greater part of Zones 2 and 3.

EXETER

Yield.—In two out of the three zones Exeter excelled, and in the remaining zone (1) it was exceeded by Banner by a difference of only .6 bushel. A general average of all tests shows that Exeter outyielded the other varieties by differences ranging from 6 bushels to 27.4 bushels. **Earliness.**—No accurate comparative data are available. However, Exeter is known to be mid-late in maturity. (See remarks in discussion of Ajax.) **Height.**—Exeter was exceeded by some of the other varieties in all zones. Taking the tests as a whole, Exeter ranked second and was exceeded by Banner and Victory by a difference of 2.3 inches. **Straw Strength.**—Exeter was comparatively satisfactory in this characteristic. Generally Exeter exceeded Gopher and Ajax but was slightly inferior to the other varieties. **Bushel Weight.**—Exeter made its best showing in Zone 2, where it ranked second to Victory. In all the other zones Exeter was exceeded by several of the other varieties. An average over the entire project shows that Exeter ranked fourth, being exceeded by Gopher, Ajax, and Victory by differences ranging from .3 pound to .9 pound. **Grades.**—Exeter graded quite well in all zones. In general the percentage of each grade is shown as follows: 2 C.W. 16.7%, 3 C.W. 55.5%, X 1 Fd. 5.5% and 2 Fd. 22.3%. **1942 Results and 1943 Official Recommendations.**—Exeter was the highest yielding variety in all zones, except Zone 1, where it was outyielded by Banner by a small difference of .6 bushel. Exeter was also quite satisfactory in bushel weight and commercial grades. Exeter has not yet been officially recommended for use in any of the zones, but is listed as being a promising new variety. The results of this project would indicate that it may prove to be valuable for use in many of the different zones throughout the province.

GOPHER

Yield.—Gopher exceeded Valor in the three zones under review, but in each of these zones, it was outyielded by the other varieties. A general average shows the yield of Gopher to be 65.5 bushels, exceeding Valor by 15 bushels, but being outyielded by the other varieties by differences ranging from 1.5 bushels to 12.4 bushels. **Earliness.**—No comparative data are available. However, Gopher is known to be early maturing. (See remarks under "Ajax"). **Height.**—In most zones Gopher was inferior to all the other varieties. The only exception was in Zone 2 where it exceeded Valor by .7 inch. Taking the tests as a whole Gopher was the shortest variety, being exceeded by the other varieties by differences ranging from 1.1 inches to 8 inches. **Straw Strength.**—Gopher was comparatively satisfactory in all zones. In general, however, Gopher tied with Ajax but was exceeded by all the other varieties by small differences. **Bushel Weight.**—Gopher showed to best advantage in Zone 1, where it tied with Victory and ranked second to Ajax. Generally Gopher ranked third, being exceeded by Ajax and Victory by .2 pound and .6 pound respectively. **Grades.**—Gopher was quite satisfactory in all zones, the percentage of each grade being shown as follows: 2 C.W. 27.8%, 3 C.W. 38.9%, 1 Fd. 27.8% and 2 Fd. 5.5%. **1942 Results and 1943 Recommendations.**—Gopher was outyielded by all varieties except Valor in all zones. Gopher proved quite satisfactory in bushel weight and commercial grades throughout the project. Gopher is officially recommended for use in part of Zone 1 and a small part of Zone 3.

VALOR

Yield.—Because of the moist conditions which prevailed in 1942 the comparative yield of Valor was considerably lower than could reasonably be expected in a more normal season. In this test Valor yielded decidedly low in each of the three zones. Taking these zones as a whole Valor averaged 50.5 bushels per acre, being outyielded by the other varieties by differences ranging from 15 bushels to 27.4 bushels. **Earliness.**—No comparative data are available, but other tests have shown Valor to be extremely early maturing. (See remarks under "Ajax"). **Height.**—In Zone 1 Valor exceeded Gopher by a difference of 7.5 inches, but in Zones 2 and 3 there was little

difference between the comparative height of Valor and Gopher. In general, however, Valor ranked fourth, having exceeded Gopher, but was shorter than the other varieties by differences ranging from 4.3 inches to 6.9 inches. **Straw Strength.**—Valor appeared reasonably satisfactory in each of the zones. Taking the tests as a whole Valor ranked second to Vanguard and showed a slight superiority to the other varieties. **Bushel Weight.**—Averaging throughout the tests 36.7 lbs. per measured bushel, Valor tied with Vanguard and exceeded Banner. It was, however, outweighed by the other varieties by differences ranging from .2 lb. to 1.1 lbs. **Grades.**—Valor showed very satisfactory commercial grades. The percentage of each grade was as follows: 1 C.W. 5.6%, 2 C.W. 22.2%, 3 C.W. 55.5%, and 1 Fd. 16.7%. **1942 Results and 1943 Official Recommendations.**—Valor was outyielded by marked differences by all other varieties. It was, however, quite satisfactory in bushel weight and commercial grades. As Valor is recommended for use in areas subject to frequent droughts, it was at a disadvantage to the other varieties in 1942 due to the abnormal amount of moisture received throughout the province. Valor has not been officially recommended for use in any zone, but in the 1943 recommendations it is listed as a promising new drought-resistant variety.

VANGUARD

Yield.—Vanguard yielded comparatively well in each of the three zones. Taking the tests as a whole the average yield of this variety is shown as 71.9 bushels. It was exceeded by Exeter by a difference of 10.9 bushels, but outyielded the other varieties by differences ranging from .7 bushel to 21.4 bushels. **Earliness.**—No accurate information is available in connection with comparative maturity periods, but Vanguard is known to be moderately early maturing. (See remarks under "Ajax"). **Height.**—Vanguard showed its best comparative height in Zone 1 where it exceeded all other varieties. Vanguard was exceeded by several of the other varieties in the other zones. Generally, Vanguard tied with Ajax and ranked third in this characteristic. **Straw Strength.**—Vanguard showed comparatively good straw strength in each zone. Taking the tests as a whole it was slightly superior to Valor and somewhat superior to the other varieties. **Bushel Weight.**—Some variation occurred in the comparative bushel weight of Vanguard in the three zones. Over the whole test, however, it averaged 36.7 lbs. It equalled Valor and out-weighed Banner, but was exceeded by the other varieties by differences ranging from .2 lb. to 1.1 lbs. **Grades.**—Vanguard was very satisfactory in commercial grades, the percentage of each being shown as follows: 2 C.W. 27.8%, 3 C.W. 61.0%, 1 Fd. 5.6%, 2 Fd. 5.6%. **1942 Results and 1943 Official Recommendations.**—Vanguard was comparatively high in yield, having ranked second in both Zone 1 and Zone 2, and third in Zone 3. Vanguard was satisfactory in bushel weight and very satisfactory in commercial grades. It is officially recommended for use in the greater part of Zones 2 and 3.

VICTORY

Yield.—Victory was outyielded by a number of the other varieties in each of the three zones under review. In general Victory averaged 67.0 bushels per acre. It exceeded Gopher and Valor by 1.5 bushels and 16.5 bushels respectively, but was outyielded by the other varieties by differences which ranged from 3.7 bushels to 10.9 bushels. **Earliness.**—No comparative data are available, but Victory is known to be mid-late in maturity. (See remarks under "Ajax"). **Height.**—Victory was exceeded by Vanguard in Zone 1 and by Banner in Zone 3, but in Zone 2 Victory exceeded all other varieties. Generally Victory tied with Banner and exceeded the other varieties by differences ranging from 2.3 inches to 8.0 inches. **Straw Strength.**—Victory showed decidedly good straw strength in Zone 1 but was somewhat inferior to a number of the other varieties in Zones 2 and 3. **Bushel Weight.**—Victory showed comparatively good bushel weight in each zone. Taking the tests as a whole Victory averaged 37.8 lbs. per measured bushel, outweighing the other varieties by differences ranging from .4 lb. to 2 lbs. **Grades.**—Victory was quite satisfactory, having shown fairly high commercial grades in all

zones. The percentage of commercial grades is shown as follows: 2 C.W. 33.4%, 3 C.W. 22.2%, X 1 Fd. 11.1%, 1 Fd. 22.2%, 2 Fd. 11.1%. 1942 Results and 1943 Official Recommendations.—Victory, although it was outyielded by several other varieties, showed a fairly good comparative yield in all zones. Victory also possessed good bushel weight and fairly good commercial grades in all zones. It is officially recommended for use in the greater part of Zone 1 and throughout Zones 2 and 3.

TABLE NO. 33.

Individual Summarized Results for All Tests—OATS

WHEAT POOL DISTRICT 1

Test Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes
1 5 B Emerson Douglas Goud, Estevan

WHEAT POOL DISTRICT 2

Cereal Variety	Test	Yield bus.	Plant per acre	Days seed-ripening	Straw strength	Lbs. per bushel	meas- ured	Commercial grades	Grading remarks
Zone	Sub- dist.	desig- nation	Varieties	in inches	ripening	bushel			
DONALD GEORGE BARRETT, RADVILLE									
1A	2	1	B	Valor	47.6	....	....	38.0	2 CW
..	Vanguard	69.1	....	....	40.0	2 CW
..	Victory	70.5	....	....	42.0	2 CW
..	Banner	77.2	....	....	42.0	2 CW
..	Gopher	71.0	....	....	41.0	2 CW
..	Exeter	68.4	....	....	41.0	3 CW
..	Ajax	78.9	....	....	40.5	2 CW
Necessary difference—12.2 bushels.									

ALLAN DUNN FETTES, GLADMAR

1A	2	2	B	Valor	51.9	24	....	9	39.0	2 CW
..	..	..	..	Vanguard	56.5	22	....	9	35.0	3 CW
..	..	..	..	Victory	44.1	25	....	9	34.0	3 CW
..	..	..	..	Banner	58.0	25	....	9	34.0	1 Fd.
..	..	..	..	Gopher	64.3	23	....	9	36.5	2 CW
..	..	..	..	Exeter	60.0	23	....	9	33.0	2 Fd.
..	..	..	..	Ajax	58.7	25	....	9	37.0	2 CW

Necessary difference—6.5 bushels.

HARRY HARTLEY, JR., OGEMA

1A	2	9	B	Valor	23.3	36	83	10	40.0	3 CW
..	..	..	..	Vanguard	56.9	40	80	10	40.0	2 CW
..	..	..	..	Victory	49.5	35	79	10	40.5	3 CW
..	..	..	..	Banner	60.8	33	78	10	38.0	1 Fd.
..	..	..	..	Gopher	52.5	30	82	10	40.0	1 Fd.
..	..	..	..	Exeter	60.3	36	81	8	40.0	3 CW
..	..	..	..	Ajax	47.1	35	80	9	40.0	3 CW

Samples bulked.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes
2 .. 5B William Kenneth Stewart, Strathallen

WHEAT POOL DISTRICT 3

1A	3	2	B	Ralph	34.3	34	....	8.0	37.0	3 CW	G.
..	..	..	..	Vanguard	57.5	38	98	9.7	41.5	2 CW	
..	..	..	..	Victory	58.2	39	103	10.0	43.0	2 CW	
..	..	..	..	Banner	46.5	38	102	10.0	40.0	2 CW	
..	..	..	..	Gopher	16.5	25	95	2.0	42.0	3 CW	G.
..	..	..	..	Exeter	51.5	37	100	9.0	42.5	2 CW	
..	..	..	..	Ajax	20.7	36	95	4.3	42.5	2 CW	

Samples bulked.

WHEAT POOL DISTRICT 6

Cereal Variety	Sub-Zone	Test Dist.	Design- nation	Yield bus. Varieties	Plant per acre	Days seed- height in inches	Straw ripening	Lbs. per bushel	meas- ured	Commercial grades	Grading remarks
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GEORGE DOUGLAS STEER, YELLOW GRASS

2A	6	1	C	Valor	90.7	46	97	8.3	37.0	2 CW	
..	Vanguard	95.3	50	101	8.7	34.5	3 CW	
..	..	..	..	Victory	58.8	50	99	8.7	35.0	1 Fd.	G.
..	..	..	..	Banner	59.1	54	100	8.7	32.0	2 Fd.	
..	..	..	..	Gopher	104.6	46	98	8.7	35.0	3 CW	
..	..	..	..	Exeter	85.2	50	100	8.3	32.5	2 Fd.	
..	..	..	..	Ajax	102.9	52	99	8.7	36.0	3 CW	

Necessary difference—17.2 bushels.

WHEAT POOL DISTRICT 7

ERNEST ALBERT ELDER, FILLMORE

2A	7	5	B	Valor	87.3	40	97	6.7	35.0	1 Fd.	
..	..	..	..	Vanguard	110.3	43	112	7.0	37.0	1 Fd.	
..	..	..	..	Victory	100.0	52	121	4.0	38.0	3 CW	
..	..	..	..	Banner	120.7	42	120	4.3	36.0	3 CW	
..	..	..	..	Gopher	93.5	40	100	7.0	37.0	2 Fd.	
..	..	..	..	Exeter	128.5	43	117	7.0	40.0	3 CW	
..	..	..	..	Ajax	105.5	43	104	7.0	37.0	1 Fd.	

No significant yield difference between varieties.

GLEN F. JOHNSTON, GLENAVON

2A	7	6	B	Valor	21.0	22	105	...	35.0	3 CW	
..	..	..	..	Vanguard	38.0	28	111	...	36.0	3 CW	
..	..	..	..	Victory	46.0	34	111	...	39.5	X1 Fd.	Sg.
..	..	..	..	Banner	36.8	30	111	...	36.0	3 CW	Sg.
..	..	..	..	Gopher	42.9	26	110	...	35.5	3 CW	W.
..	..	..	..	Exeter	54.4	32	114	...	37.5	X1 Fd.	Sg.
..	..	..	..	Ajax	37.2	28	107	...	35.5	3 CW	

Necessary difference—10.3 bushels.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes
7 .. 8B Dave James Brownlee, Rocanville

WHEAT POOL DISTRICT 8

MICKEY VARGO, ROKEBY

3C	8	2	B	Valor	46.7	38	88	10	36.0	3 CW	G.
..	..	..	..	Vanguard	72.1	40	95	10	33.0	2 Fd.	L.W.
..	..	..	..	Victory	60.8	38	96	10	31.5	2 Fd.	L.W.
..	..	..	..	Banner	49.6	41	95	10	31.0	2 Fd.	L.W.
..	..	..	..	Gopher	38.2	43	90	10	34.0	1 Fd.	G.W.
..	..	..	..	Exeter	75.3	45	94	10	32.5	2 Fd.	L.W.
..	..	..	..	Ajax	72.1	43	95	10	36.0	2 CW	

Necessary difference—19.4 bushels.

LESLIE JOHN MUIR, YORKTON

3C	8	4	B	Valor	51.0	35	...	5.7	37.0	2 CW	
..	..	..	..	Vanguard	82.9	40	...	5.7	37.0	2 CW	
..	..	..	..	Victory	89.4	42	...	6.7	38.0	X1 Fd.	G.
..	..	..	..	Banner	86.9	40	...	5.7	31.5	2 Fd.	I.
..	..	..	..	Gopher	88.4	36	...	5.0	38.0	2 CW	
..	..	..	..	Exeter	102.1	39	...	5.7	37.5	3 CW	Sg.
..	..	..	..	Ajax	73.9	40	...	5.0	39.0	1 CW	

Necessary difference—21.5 bushels.

JOHN M. PATRICK, TINY

3C	8	6	B	Valor	36.9	...	...	...	34.0	1 Fd.	G.W.
..	..	..	..	Vanguard	60.6	...	...	...	38.0	3 CW	G.
..	..	..	..	Victory	67.4	...	...	...	37.0	3 CW	G.
..	..	..	..	Banner	55.4	...	...	...	36.0	3 CW	G.
..	..	..	..	Gopher	45.3	...	...	...	36.0	3 CW	G.
..	..	..	..	Exeter	65.7	...	...	...	35.0	2 CW	G.
..	..	..	..	Ajax	51.2	...	...	...	38.5	3 CW	G.W.

No significant yield difference between varieties.

WHEAT POOL DISTRICT 9

Cereal variety zone	Sub- dist.	Test desig- nation	Yield per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Lbs. per meas- ured bushel			Commercial grades	Grading remarks
							inches	bushel	bushel		

JOHN ORBAN, PUNNICHY

3C	9	3	B	Valor	114.5	47	110	4.0	38.5	2 CW	
"	"	"	"	Vanguard	113.5	44	119	5.0	38.0	2 CW	
"	"	"	"	Victory	...	45	108	...	...	...
"	"	"	"	Banner	111.3	55	120	1.0	38.0	3 CW	G.
"	"	"	"	Gopher	102.9	42	108	5.0	37.0	3 CW	
"	"	"	"	Exeter	130.4	50	119	0	38.5	X1 Fd.	F.
"	"	"	"	Ajax	139.7	51	111	3.0	41.0	2 CW	

Samples bulked.

HARRY FREDRICH WODTKE, PUNNICHY

3C	9	7	B	Valor	92.4	45	99	4	33.0	1 Fd.	
"	"	"	"	Vanguard	110.1	46	103	8	34.0	3 CW	Sg.
"	"	"	"	Victory	92.2	55	112	8	34.0	1 Fd.	Vg.
"	"	"	"	Banner	102.9	54	112	8	35.5	3 CW	Sg.
"	"	"	"	Gopher	103.8	44	101	3	37.0	2 CW	
"	"	"	"	Exeter	126.5	48	106	9	36.5	3 CW	Sg.
"	"	"	"	Ajax	104.3	50	106	7	35.5	3 CW	

No significant yield difference between varieties.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

9 .. 1C Bonace L. Korchinski, Ituna
9 .. 2B Erhart Frank Manz, Southey

WHEAT POOL DISTRICT 10

KENNETH ROY GIBSON, BRATTON

2B	10	5	B	Valor	21.2	...	...	...	36.5	3 CW	Lw. W.
"	"	"	"	Vanguard	17.1	...	...	...	33.0	1 Fd.	Lw.
"	"	"	"	Victory	45.8	...	...	...	28.5	2 Fd.	Lw. G.
"	"	"	"	Banner	27.5	...	...	...	25.0	3 Fd.	Lw. G.
"	"	"	"	Gopher	9.0	...	...	...	35.0	1 Fd.	Lw. G.
"	"	"	"	Exeter	37.6	...	...	...	28.0	2 Fd.	Lw. G.
"	"	"	"	Ajax	48.6	...	...	...	29.0	2 Fd.	Lw. G.

Samples bulked.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

10 .. 9B Mervin Holder, Bladworth

WHEAT POOL DISTRICT 12

BENJAMIN JAMES SURRY, BALJENNIE

3E	12	2	B	Valor	24.2	...	...	...	36.0	3 CW	
"	"	"	"	Vanguard	75.3	...	...	...	35.5	3 CW	
"	"	"	"	Victory	65.5	...	...	...	38.0	2 CW	
"	"	"	"	Banner	97.7	...	...	...	36.5	2 CW	
"	"	"	"	Gopher	62.5	...	...	...	36.0	3 CW	
"	"	"	"	Exeter	71.2	...	...	...	35.0	3 CW	
"	"	"	"	Ajax	76.2	...	...	...	34.0	1 Fd.	

Necessary difference—21.9 bushels.

WALTER KEMBEL, LUSELAND

2D	12	4	B	Valor	32.9	24	...	5.0	39.0	3 CW	
"	"	"	"	Vanguard	45.3	25	...	5.0	37.0	3 CW	
"	"	"	"	Victory	47.4	28	...	7.0	42.0	2 CW	
"	"	"	"	Banner	53.2	28	...	8.0	39.0	2 CW	
"	"	"	"	Gopher	44.8	24	...	5.3	38.0	1 Fd.	
"	"	"	"	Exeter	17.0	26	...	7.0	40.0	3 CW	
"	"	"	"	Ajax	42.2	28	...	6.0	37.0	3 CW	

No significant yield difference between varieties.

Wheat Pool District 12—Continued

Cereal variety zone	Sub- zone	Test Dist. dist.	desig- nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to Straw ripening	Lbs. per meas- ured bushel	Commercial Grading	
									meas- ured bushel	Commercial Grading grades remarks

ROBERT JAMES JACK, ADANAC

2D	12	7	B	Valor	79.8	...	10.0	38.0	3 CW
..	..	..	..	Vanguard	108.6	...	8.7	37.5	3 CW
..	..	..	..	Victory	100.1	...	8.0	38.0	1 Fd.
..	..	..	..	Banner	105.5	...	8.3	36.0	3 CW
..	..	..	..	Gopher	67.0	...	10.0	39.0	1 Fd.
..	..	..	..	Exeter	111.5	...	8.0	38.0	3 CW
..	..	..	..	Ajax	105.8	...	9.0	37.0	1 Fd.

Necessary difference—19.1 bushels.

CHARLES EDWARD FOISY, CUTKNIFE

3E	12	9	B	Valor	22.7	...	...	35.5	3 CW
..	..	..	..	Vanguard	25.8	...	...	36.0	3 CW
..	..	..	..	Victory	47.0	...	...	39.0	2 CW
..	..	..	..	Banner	36.8	...	...	37.0	2 CW
..	..	..	..	Gopher	39.5	...	...	37.0	2 CW
..	..	..	..	Exeter	46.1	...	...	38.0	2 CW
..	..	..	..	Ajax	34.7	...	...	36.0	3 CW

Necessary difference 7.8 bushels.

JOHN PATRICK McCAFFREY, PRONGUA

3E	12	10	B	Valor	35.3	...	...	35.0	3 CW
..	..	..	..	Vanguard	50.9	...	...	37.0	3 CW
..	..	..	..	Victory	53.9	...	...	39.0	1 Fd. G.
..	..	..	..	Banner	44.4	...	...	36.0	3 CW G.
..	..	..	..	Gopher	44.8	...	...	34.0	3 CW
..	..	..	..	Exeter	63.5	...	...	33.0	2 Fd. Lw.
..	..	..	..	Ajax	60.9	...	...	36.0	2 CW

Bulked.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes
12 .. 5B Albert Clarence Valentine Schille, Scott

WHEAT POOL DISTRICT 13

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes
13 .. 3B Aldon Elmer Andreen, Dundurn
13 .. 7B Abram W. Neudorf, Osler

WHEAT POOL DISTRICT 14

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes
14 .. 2B Roy Adolph Tjernstrom, Margo
14 .. 4B Benno William Bergermann, Muenster

WHEAT POOL DISTRICT 15

PEDER HOILAND, BIRCH HILLS

3D	15	1	B	Valor	95.2	42	98	8.7	38.0	1 CW
..	..	..	..	Vanguard	101.0	49	102	4.7	35.5	3 CW
..	..	..	..	Victory	99.7	56	102	4.3	32.5	2 Fd. Vg.
..	..	..	..	Banner	115.5	53	102	3.7	30.0	2 Fd. G.I.
..	..	..	..	Gopher	107.7	41	99	8.3	35.0	1 Fd. G.
..	..	..	..	Exeter	113.6	48	102	3.0	36.5	3 CW G.I.
..	..	..	..	Ajax	113.9	49	102	4.7	37.0	2 CW

No significant yield difference between varieties.

WHEAT POOL DISTRICT 16

PETER ROY TAYLOR, PAYNTON

3E	16	5	B	Valor	35.7	24	84	10.0	36.5	3 CW
..	..	..	..	Vanguard	83.9	42	88	9.7	36.0	2 CW
..	..	..	..	Victory	56.5	42	...	9.3	39.0	2 CW
..	..	..	..	Banner	65.6	48	...	9.3	39.0	2 CW
..	..	..	..	Gopher	92.5	24	84	10.0	39.0	3 CW
..	..	..	..	Exeter	72.8	36	88	10.0	40.0	3 CW
..	..	..	..	Ajax	95.0	30	86	10.0	39.0	2 CW

Necessary difference—19.8 bushels.

Wheat Pool District 16—Continued

Cereal Variety Zone	Sub- dist.	Test desig- nation	Yield bus. Varieties	Plant per acre	Days seed- ing to ripening	Straw strength	Lbs. per meas- ured bushel	Commercial grades	Grading remarks
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BELTON HENRY THISTLETHWAITE, GLENBUSH

4B	16	9	B	Valor	29.1	29	110	3.7	36.0	1 Fd.	F.
"	"	"	"	Vanguard	76.5	38	110	7.0	36.0	2 CW	
"	"	"	"	Victory	86.1	35	109	6.7	38.0	2 CW	
"	"	"	"	Banner	92.5	39	109	6.3	41.0	2 CW	
"	"	"	"	Gopher	54.8	32	108	2.0	36.0	3 CW	Bw.
"	"	"	"	Exeter	92.4	31	108	6.7	37.0	2 CW	
"	"	"	"	Ajax	59.2	32	109	5.0	37.0	2 CW	

Necessary difference—17.4 bushels.

WALTER ILNESKY, RANGER

4B	16	10	D	Valor	74.4	46	...	6.7	36.0	3 CW	G.
"	"	"	"	Vanguard	70.5	49	...	6.3	38.0	2 CW	
"	"	"	"	Victory	53.4	51	...	6.0	35.0	2 CW	
"	"	"	"	Banner	...	50	...	5.7	...	...
"	"	"	"	Gopher	71.1	46	...	3.7	37.0	2 CW	
"	"	"	"	Exeter	...	47	...	...	...	...
"	"	"	"	Ajax	39.8	48	...	3.0	34.5	2 CW	

Samples bulked.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

- 16 .. 1C John Andrew Reid, Maymont
- 16 .. 4B Paul Emile Jullion, St. Hippolyte
- 16 .. 6B Kenneth Peter Sutton, Marshall
- 16 .. 7C Majorie Ruth Mills, Frenchman Butte
- 16 .. 10C Abraham Unrau, Mullingar



The Feed Yield Test of Marion Olive Phillips, Cabana.

BARLEY

TABLE NO. 34.—AVERAGE YIELD IN BUSHELS PER ACRE
SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Regal Rex Warrior Plush Prospect Newal O.A.C. 21						Necessary difference in bushels
		Regal	Rex	Warrior	Plush	Prospect	Newal	
2.....	8	55.9	53.4	42.9	59.3	57.6	51.1	50.3 6.0
3.....	17	54.9	55.8	45.5	60.7	56.6	59.4	61.6 5.0
4.....	4	41.6	41.6	44.1	55.7	50.8	52.0	42.3 *

* No significant grain yield difference between varieties.

YIELD

Table No. 34 shows the average yield of each barley variety arranged in soil climatic zones. From the table it will be observed that in Zones 2 and 4 Plush excelled, and in Zone 3 Plush was exceeded only by O.A.C. 21. Prospect and Newal showed comparatively good yields, although in Zone 2 the latter was outyielded by a number of the other varieties. O.A.C. 21 yielded particularly well in Zone 3. Regal appeared fairly satisfactory in Zone 2 but in Zones 3 and 4 it was outyielded by many of the other varieties. Rex appeared to most advantage in Zones 2 and 3. In Zone 4 Warrior exceeded some of the other varieties, but in Zones 2 and 3 it was the lowest yielder.

TABLE NO. 35.—AVERAGE NUMBER OF DAYS FROM SEEDING TO RIPENING
SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Regal Rex Warrior Plush Prospect Newal O.A.C. 21					
		Regal	Rex	Warrior	Plush	Prospect	Newal
2.....	8	94.1	94.2	89.8	94.3	93.8	94.7 94.3
3.....	17	93.4	93.4	87.8	93.8	93.1	92.5 93.4
4.....	4	95.6	96.0	91.3	96.0	95.6	93.6 96.0

DAYS FROM SOWING TO RIPENING

Table No. 35 shows the average number of days required by each variety from sowing to ripening. As could be expected, Warrior ripened earlier than the other varieties. In the three zones under review this variety required less than ninety days to reach maturity. Taking the tests as a whole, the average maturity period of Warrior was 88.9 days. In general the two-rowed Rex more or less tied with O.A.C. 21. Each of these varieties ripened in an average of 94.0 days. Some variation was noticeable in the ripening periods of the six-rowed smooth awned varieties in the different zones, but taking the tests as a whole, Newal required 93.3 days to reach maturity, ripening earlier than the others by the following differences: Prospect .4 day, Regal .6 day, and Plush 1 day.

TABLE NO. 36.—HEIGHT SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Regal Rex Warrior Plush Prospect Newal O.A.C. 21					
		Regal	Rex	Warrior	Plush	Prospect	Newal
2.....	8	36.8	36.2	30.3	35.7	34.1	34.4 38.2
3.....	17	38.2	40.9	33.1	39.7	35.7	38.0 41.7
4.....	4	39.1	37.3	30.8	38.2	35.3	38.3 39.5

HEIGHT

The height of each variety in inches is shown in Table No. 36. This table is compiled in Soil Climatic Zones. As it will be observed, Warrior was decidedly shorter than the other varieties in all zones. Over the whole test the average height of Warrior appeared as 32.1 inches, being exceeded

by the other varieties by differences ranging from 3.1 inches to 8.4 inches. A comparison of the four six-rowed, smooth-awned varieties shows that while there were some variations, Plush and Regal were generally somewhat taller than Newal. Prospect was decidedly shorter than the others. Rex consistently showed comparatively good height, while O.A.C. 21 exceeded all other varieties in each of the three zones. A general comparison over the whole of the barley project revealed that Rex ranked second to O.A.C. 21, the difference between these varieties being 1.2 inches. Plush exceeded the other six rowed smooth awned varieties by differences as follows: Regal .5 inch; Newal 1.4 inches; and Prospect 3.3 inches.

TABLE NO. 37.—STRAW STRENGTH SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Soil Climatic Zones						
		Regal	Rex	Warrior	Plush	Prospect	Newal	O.A.C. 21
2	8	8.5	8.8	8.4	8.0	8.5	8.4	7.1
3	17	8.2	7.9	9.0	7.0	8.3	8.0	7.1
4	4	10.0	10.0	10.0	9.5	9.5	9.0	9.5

STRAW STRENGTH

Table No. 37 shows the strength of straw of each variety based on the markings 0 to 10, as in the wheat tests. As the reader will observe, the hooded variety Warrior, showed comparatively good straw strength in all zones. The two-rowed Rex was also satisfactory in this characteristic. O.A.C. 21 was the weakest strawed variety. In Zone 1 it showed decided inferiority. Some variation occurred between the six-rowed smooth awned varieties in the different zones, but a general comparison of all tests showed that Regal and Prospect were slightly superior to Newal, while Newal was superior to Plush.

TABLE NO. 38.—NECK STRENGTH OF BARLEY SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Soil Climatic Zones						
		Regal	Rex	Warrior	Plush	Prospect	Newal	O.A.C. 21
2	8	1.8	1.7	1.3	1.9	1.7	2.3	2.4
3	17	1.7	1.4	1.4	1.5	1.5	2.1	2.4
4	4	2.0	1.2	1.2	1.2	1.7	2.9	2.6

NECK STRENGTH OF BARLEY

Neck strength of barley was reported on the basis of strong, medium, and weak. If the neck was satisfactory the figure 1 was used. If only a few of the stems broke at the neck then "2" was shown as the neck strength. If numerous heads drooped or fell off the figure "3", indicating weak, was used. Thus the smaller the figure shown, the stronger the neck appeared. Table No. 38 shows the strength of the necks of the seven barley varieties based on the markings mentioned. From this table the reader will observe that Warrior equalled or was superior to all other varieties in this characteristic. The two-rowed Rex variety was also quite satisfactory in neck strength. A comparison of the six-rowed smooth awned varieties shows that with the exception of Zone 4 where Plush was slightly superior, Prospect excelled. O.A.C. 21 was decidedly inferior to the other varieties. In a general average of all tests Warrior excelled. Rex was only slightly inferior to Warrior. Plush and Prospect were about equal and were inferior to Rex. The difference between these three varieties, however, was very slight. Regal was inferior to Plush and Prospect, but here again the difference was only of a very slight nature. Newal was somewhat weaker than Regal and O.A.C. 21 was slightly inferior to Newal.

TABLE NO. 39.—AVERAGE WEIGHT PER MEASURED BUSHEL
SUMMARIZED IN SOIL CLIMATIC ZONES

Zone	No. of satisfactory tests	Regal	Rex	Warrior	Plush	Prospect	Newal	O.A.C. 21
2.....	8	46.8	51.4	38.7	46.6	48.0	47.3	46.6
3.....	17	46.3	50.4	40.0	47.4	48.3	47.0	47.9
4.....	4	48.8	54.0	46.0	49.7	49.0	51.0	49.3

BUSHEL WEIGHT

In Table No. 39 is shown the average weight per measured bushel. This table is arranged in Soil Climatic Zones. All weights were taken on cleaned samples. As the table shows, the two-rowed Rex outweighed all other varieties in each of the three zones. In Zones 1 and 2 O.A.C. 21 was inferior in weight to many of the other varieties, but in Zone 3 the standard malting variety weighed comparatively well. The hooded variety, Warrior, was decidedly low in weight in all zones. A comparison of the four six-rowed smooth awned varieties shows that Prospect excelled in two out of the three zones. In Zone 4 it was exceeded by Plush and Newal by .7 pound and 2.0 pounds respectively. Taking the tests as a whole, Rex with an average weight of 51.1 pounds outweighed O.A.C. 21 by 3.5 pounds. Considering the six-rowed smooth awned varieties only, Prospect excelled. With an average weight of 48.3 pounds it exceeded the others by the following differences: Newal .7 pound, Plush .8 pound and Regal 1.6 pounds. In this general average the bushel weight of Warrior was shown as 40.4 pounds.

ZONE 1

Only one test was available in Zone 1. The results of this test appear on Page No. 70.

TABLE NO. 40.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 2

	Regal	Rex	Warrior	Plush	Prospect	Newal	O.A.C. 21
Yield in bushels per acre.....	55.9	53.4	42.9	59.3	57.6	51.1	50.3
Days from seeding to ripening.....	94.1	94.2	89.8	94.3	93.8	94.7	94.3
Height of plant in inches.....	36.8	36.2	30.3	35.7	34.1	34.4	38.2
Straw strength.....	8.5	8.8	8.4	8.0	8.5	8.4	7.1
Neck strength.....	1.8	1.7	1.3	1.9	1.7	2.3	2.4
Bushel weight in pounds.....	46.8	51.4	38.7	46.6	48.0	47.3	46.6
Commercial grades in percentage—							
2 CW 6-Row .....	...	...	...	...	...	...	58
2 CW 2-Row .....	...	100	...	...	...	...	...
3 CW 6-Row	71	...	...	86	86	86	28
2 Feed	29	...	...	14	14	14	14
3 Feed .....	...	...	100	...	...	...	...
Necessary difference—6.0 bushels.							

ZONE 2

Yield.—Plush excelled, exceeding the other varieties by the following differences: Prospect 1.7 bushels, Regal 3.4 bushels, Rex 5.9 bushels, Newal 8.2 bushels and O.A.C. 21—9 bushels. **Earliness.**—With a maturity period of 89.8 days, the hooded variety Warrior again excelled. Rex exceeded O.A.C. 21 by a slight difference of .1 day. Prospect was earlier than the other 6 rowed smooth-awned varieties by the following differences: Regal .3 day, Plush .5 day, and Newal .9 day. **Height.**—O.A.C. 21 again excelled. It was taller than Rex by 2 inches. Regal was taller than the other smooth-awned 6-rowed varieties by the following differences: Plush 1.1 inches; Prospect 2.7 inches, and Newal 2.4 inches. Warrior was again exceeded by all other varieties by differences ranging from 3.8 inches to 7.9 inches. **Straw Strength.**—Rex excelled in this zone but little difference appeared between any of the varieties. O.A.C. 21 was slightly weaker than the others. **Neck Strength.**—Warrior again showed superiority over the other varieties. Rex was slightly superior to O.A.C. 21. Of the four smooth-awned 6-rowed

barleys, Regal, Plush, and Prospect were about equal and were slightly superior to Newal. **Bushel Weight.**—Rex excelled, outweighing O.A.C. 21 by 4.8 pounds. Prospect outweighed the other smooth-awned 6-rowed varieties by the following differences: Regal 1.2 pounds, Plush 1.4 pounds, and Newal .7 pound. Warrior was decidedly outweighed by all other varieties by differences ranging from 7.9 pounds to 12.7 pounds. **Commercial Grades.**—Some light-weight kernels were in evidence in all varieties. Rex graded better than the other varieties. O.A.C. 21 also showed relatively good grades in a number of tests. There was little difference between the 6-rowed smooth-awned varieties, although of the four Regal was somewhat inferior. Warrior was decidedly inferior to the other varieties. **Smut.**—Covered smut was in evidence in all varieties, Prospect and Newal being the heaviest infected. Loose smut was also apparent in all varieties, but the percentage of infection in Regal, Rex, and Warrior was less than in the other varieties. Prospect and Newal were both quite badly infected, while Plush and O.A.C. 21 both showed a moderate degree of infection. **Shattering.**—A small loss was shown to all varieties. Regal and Warrior showed slightly more loss than the other varieties. **General Results.**—Prospect although outyielded by Plush was superior to the latter in earliness, straw strength, and bushel weight, and in general Prospect appeared to be superior to the other 6-rowed smooth-awned varieties. Prospect is officially recommended throughout this zone. Rex was outyielded by a number of varieties, but it excelled in straw strength, bushel weight, and commercial grades. Rex is also recommended officially for use throughout this zone. Apart from height O.A.C. 21 showed no outstanding characteristic and was decidedly inferior to the other varieties in straw strength. Warrior excelled in earliness, but was decidedly lower in yield and bushel weight and commercial grades than any of the other varieties.

TABLE NO. 41.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 3

	Regal	Rex	Warrior	Plush	Prospect	Newal	O.A.C. 21
Yield in bushels per acre.....	54.9	55.8	45.5	60.7	56.6	59.4	61.6
Days from seeding to ripening.....	93.4	93.4	87.8	93.8	93.1	92.5	93.4
Height of plant in inches.....	38.2	40.9	33.1	39.7	35.7	38.0	41.7
Straw strength.....	8.2	7.9	9.0	7.0	8.3	8.0	7.1
Neck strength.....	1.7	1.4	1.4	1.5	1.5	2.1	2.4
Bushel weight in pounds.....	46.3	50.4	40.0	47.4	48.3	47.0	47.9
Commercial grades in percentage—							
2 CW 6-Row	...	...	...	...	...	...	47.0
2 CW 2-Row	...	76.4	...	...	...	...	...
3 CW 6-Row	70.5	...	...	94.1	88.2	88.2	47.0
1 Feed	...	23.6	5.9	5.9	5.9	...	6.0
2 Feed	23.6	...	29.4	...	5.9	11.8	...
3 Feed	5.9	...	64.7	...	...	...	...
Necessary difference—5.0 bushels.							

ZONE 3

Yield.—O.A.C. 21 excelled, outyielding the other varieties by the following differences: Plush .9 bushel, Newal 2.2 bushels, Prospect 5 bushels, Rex 5.8 bushels, Regal 6.7 bushels, and Warrior 16.1 bushels. **Earliness.**—Warrior again ripened earlier than all other varieties. Rex and O.A.C. 21 tied. Newal was earlier than the other six-rowed smooth-awned varieties by the following differences: Prospect .6 day, Regal .9 day, and Plush 1.3 days.

Height.—O.A.C. 21 with an average height of 41.7 inches exceeded all the other varieties by differences which are shown as follows: Rex .8 inch, Plush 2 inches, Regal 3.5 inches, Newal 3.7 inches, Prospect 6 inches and Warrior 8.6 inches. **Straw Strength.**—All varieties were quite satisfactory. Warrior was slightly superior to the other varieties. **Neck Strength.**—With the exception of Newal and O.A.C. 21 which showed a marked weakness, all varieties showed comparatively good neck strengths. **Bushel Weight.**—Rex excelled and outweighed O.A.C. 21 by 2.5 pounds. Prospect outweighed the six-rowed smooth-awned varieties by the following differences: Plush .9

pound, Newal 1.3 pounds, and Regal 2 pounds. Warrior was outweighed by all varieties by differences ranging from 6.3 to 10.4 pounds. **Grades.**—Light weight and immature kernels appeared in many of the samples. Rex graded very well but was closely followed by O.A.C. 21. Of the six-rowed smooth-awned varieties Plush excelled. Prospect was slightly superior to Newal. Regal was slightly inferior to the other varieties. Warrior graded poorly in this zone. **Smut.**—A small and about equal amount of covered smut was reported on all varieties. Prospect, Newal and O.A.C. 21 showed a greater number of heads infected with loose smut than any of the other varieties. **Shattering.**—Regal and Warrior showed slightly more loss than the other varieties. The loss to the other varieties was only small and about equal. **General Results.**—O.A.C. 21 outyielded all other varieties, possessed comparatively good bushel weight and graded very well. It would appear that this variety would be well worth considering at least in that part of this zone which is suitable for the production of malting barley. O.A.C. 21 is also officially recommended for use over most of this zone. Of the six-rowed smooth-awned varieties Plush showed to best advantage and is officially recommended for use in the greater part of this zone.

TABLE NO. 42.—SUMMARIZED RESULTS FOR SOIL CLIMATIC ZONE 4

	Regal	Rex	Warrior	Plush	Prospect	Newal	O.A.C. 21
Yield in bushels per acre	41.6	41.6	44.1	55.7	50.8	52.0	42.3
Days from seeding to ripening	95.6	96.0	91.3	96.0	95.6	93.6	96.0
Height of plant in inches	39.1	37.3	30.8	38.2	35.3	38.3	39.5
Straw strength	10.0	10.0	10.0	9.5	9.5	9.0	9.5
Neck strength	2.0	1.2	1.2	1.2	1.7	2.9	2.6
Bushel weight in pounds	48.8	54.0	46.0	49.7	39.0	51.0	49.3
Commercial grades in percentage							
2 CW 6-Row	...	...	...	...	...	...	50
2 CW 2-Row	...	50	...	...	...	...	...
3 CW 6-Row	50	...	...	75	100	75	50
1 Feed	25	50	50	25	...	...	...
2 Feed	...	...	25	...	...	...	...
3 Feed	25	...	25	...	...	25	...

Necessary difference—9.0 bushels.

ZONE 4

Yield.—Plush led in yielding ability, outyielding the other varieties by the following differences: Newal 3.7 bushels, Prospect 4.9 bushels, Warrior 11.6 bushels. O.A.C. 21 13.4 bushels, and Regal and Rex 14.1 bushels. **Earliness.**—Warrior again excelled. Rex and O.A.C. 21 tied. Newal was the earliest maturing of the six-rowed, smooth-awned varieties, exceeding the others by the following differences: Regal and Prospect 2 days, and Plush 2.4 days.

Height.—O.A.C. 21 excelled, being 2.2 inches taller than Rex. Regal was the tallest of the six-rowed, smooth-awned varieties, the differences being shown as follows: Newal .8 inch, Plush .9 inch, and Prospect 3.8 inches. Warrior was excelled by all varieties by differences ranging from 4.5 inches to 8.7 inches. **Straw Strength.**—All varieties exhibited reasonably good straw strength in this zone. Regal, Rex, and Warrior tied but were only slightly superior to the other varieties. **Neck Strength.**—Rex, Warrior, and Plush tied, showing very satisfactory neck strength. Prospect ranked second. Regal, Newal and O.A.C. 21 showed a marked weakness in this characteristic.

Bushel Weight.—Rex excelled, and outweighed O.A.C. 21 by 4.7 pounds. Newal exceeded the other six-rowed, smooth-awned varieties by the following differences: Plush 1.3 pounds, Prospect 2.0 pounds, and Regal 2.2 pounds. Warrior was exceeded by all varieties by differences ranging from 2.8 pounds to 8 pounds. **Grades.**—Some light weight kernels appeared in nearly all samples. O.A.C. 21 graded relatively well in a number of tests. Rex also showed comparatively good grades. A comparison of the four 6-rowed smooth-awned varieties shows that Prospect excelled but was closely followed by Plush. Warrior graded lower than any of the other varieties.

Smut.—No covered smut was reported in any variety. Regal and Warrior

were free of covered smut. Prospect showed a moderate degree of infection, while the infection on the other varieties was only of a light nature. **Shattering.**—Warrior showed a moderate loss, while the loss suffered by the other varieties was very small. **General Results.**—While Plush yielded well it was nearly 2.5 days later than Newal, and in this northern area earliness is an important factor. Newal is one of the varieties officially recommended. Regal is also officially recommended, but in this test both Plush and Prospect were superior in yield and in bushel weight. O.A.C. 21 made a comparatively good showing when compared to a number of the other varieties. This variety is also recommended officially for use in a part of the area. Rex tied with Regal in yield, but both Rex and Regal were outyielded by the other varieties. Rex showed good bushel weight, but it is not officially recommended for this northern area. Warrior was decidedly earlier than the other varieties, and although it was outyielded by Prospect, Plush and Newal, and was low in bushel weight, its "earliness" would be an advantage.

Varietal Performance

Varieties Listed in Alphabetical Order

NEWAL

Yield.—Taking the tests as a whole, Newal tied with Prospect and these varieties ranked second to Plush. **Earliness.**—In Zone 2 Newal was exceeded by a number of the other varieties, but in the other zones it ranked second to Warrior. Over the entire project Newal was 4.4 days later than Warrior, but exceeded the other varieties by differences ranging from .4 day to 1 day. **Height.**—Generally the height of Newal was fairly satisfactory, and taking the tests as a whole, it ranked fifth in height, exceeding Prospect and Warrior. **Straw Strength.**—Some variation occurred in the three zones under review, but in general Newal was inferior to the other six-rowed, smoothawned varieties. It was also inferior to Warrior and Rex, but showed superiority to O.A.C. 21. **Neck Strength.**—Newal showed a marked weakness in this characteristic. In Zones 2 and 3 it was superior to O.A.C. 21 but in Zone 4 it was weaker in this characteristic than the latter variety. Generally Newal ranked sixth in neck strength. **Bushel Weight.**—Newal showed its best comparative weight in Zone 4, where it ranked second to Rex, but in general was outweighed by both Rex and Prospect. **Grades.**—Newal showed quite satisfactory grades in all zones. The percentage of each is shown as follows: 3 C.W. 85.7%, 2 Fd. 10.7% and 3 Fd. 3.6%. **1942 Results and 1943 Official Recommendations.**—Newal proved quite satisfactory in Zones 3 and 4, showing a comparatively high yield, fairly good bushel weight and graded reasonably well. It is officially recommended for use throughout most of Zone 3 and all of Zone 4.

O.A.C. 21

Yield.—O.A.C. 21 ranked fifth in Zones 2 and 4, but in Zone 3 it outyielded all other varieties. Taking the tests as a whole it was fourth in yielding ability. **Earliness.**—In Zone 2 O.A.C. 21 tied with Plush, both varieties exceeding Newal by .4 day. In Zone 3 O.A.C. 21 tied with Regal and Rex, these varieties being earlier than Plush by .4 day. In Zone 4 O.A.C. 21 tied with Rex and Plush but failed to exceed any of the other varieties. In general O.A.C. 21 tied with Rex and these varieties exceeded Plush by .3 day. **Height.**—O.A.C. 21 exceeded the other varieties in all zones. Taking the tests as a whole the differences between O.A.C. 21 and the other varieties ranged from 1.2 inches to 8.4 inches. **Straw Strength.**—Some slight variations occurred within the zones, but in general O.A.C. 21 displayed a definite weakness in this characteristic compared to all other varieties. **Neck Strength.**—O.A.C. 21 was inferior to all varieties in all zones, except Zone 4, where it was slightly superior to Newal. Generally, however, O.A.C. 21 was exceeded by all varieties. **Bushel Weight.**—Some variation occurred within the zones, but generally O.A.C. 21 tied with Newal and ranked third in

this characteristic. **Grades.**—O.A.C. 21 was very satisfactory in commercial grades, 92.8% being within the grades 2 C.W. six-row and 3 C.W. six-row. **1942 Results and 1943 Official Recommendations.**—O.A.C. 21 appeared to best advantage in Zone 3 and it is officially recommended for use in the moister parts of this zone.

PLUSH

Yield.—Plush outyielded all varieties in Zones 2 and 4. Although it was outyielded by O.A.C. 21 in Zone 3, the difference was only .9 bushel. In general Plush was the highest yielding variety by differences ranging from 3.5 bushels to 15.0 bushels. **Earliness.**—Generally Plush was the latest maturing variety by differences ranging from .3 day to 5.4 days. **Height.**—Considerable variations occurred in the different zones, but Plush had satisfactory height, and taking the tests as a whole it placed third in this characteristic. **Straw Strength.**—There was some variation in the different zones, but in general Plush ranked sixth, showing a slight superiority over O.A.C. 21. **Neck Strength.**—Plush was quite satisfactory in this characteristic, although generally it was exceeded by Warrior, Rex and Prospect by slight differences. **Bushel Weight.**—Plush was low in weight in Zones 2 and 3, placing sixth in Zone 2 and fifth in Zone 3. It showed comparatively good weight in Zone 4 where it ranked third. Taking the tests as a whole, it ranked fourth, exceeding Regal by .8 pound and Warrior by 7.1 pounds. **Grades.**—Plush was comparatively high in commercial grades, the percentage of each appearing as follows: 3 C.W. 89.3%, 1 Fd. 7.2%, and 2 Fd. 3.5%. **1942 Results and 1943 Official Recommendations.**—Plush showed to best advantage in Zone 2 where it was the highest yielding variety, and was high in commercial grades. It also proved to be a variety worth consideration for sowing in Zones 3 and 4. It is officially recommended for use in most of Zone 2, and parts of Zone 3 when a feed variety is desired. It is not officially recommended for Zone 4 but the results of this project would indicate that it may prove useful in certain parts of this zone.

PROSPECT

Yield.—Prospect was outyielded by Plush in all zones. In Zone 3 it was also outyielded by Newal and O.A.C. 21, and in Zone 4 it was outyielded by Newal. Taking the tests as a whole Prospect tied with Newal and both these varieties were outyielded by Plush by a difference of 3.5 bushels. **Earliness.**—In Zone 2 Prospect was exceeded by Warrior but was earlier maturing than any of the other varieties. It was exceeded by both Newal and Warrior in Zones 3 and 4. An average over the entire project shows Prospect as having ranked third in its maturity period. **Height.**—Prospect was somewhat taller than Warrior, but was exceeded by the other varieties in all tests. Taking the tests as a whole, the other varieties were taller by differences ranging from 1.9 inches to 5.3 inches. **Straw Strength.**—Prospect was very satisfactory in all zones. In general it was exceeded by Warrior but tied with Regal and Rex, these varieties having shown superiority over Plush, Newal and O.A.C. 21. **Neck Strength.**—Some variations occurred within the zones, but over the entire project Prospect tied with Rex and was exceeded by Warrior by a slight difference. **Bushel Weight.**—Prospect was very satisfactory in bushel weight. It was exceeded by Rex in Zones 2 and 3, but outweighed all other varieties. In Zone 4 it ranked fifth, having outweighed Regal and Warrior. Taking the tests as a whole, Prospect ranked second, being outweighed by Rex by a difference of 2.8 pounds. **Grades.**—The commercial grades placed on Prospect are shown as follows: 3 C.W. 89.3%, 1 Fd. 3.5% and 2 Fd. 7.2%. **1942 Results and 1943 Official Recommendations.**—Prospect showed to best advantage in Zone 2, and is officially recommended for use in the greater part of this zone.

REGAL

Yield.—Regal yielded best in Zone 2 where it ranked third, being outyielded by Plush and Prospect. In Zone 3 it ranked sixth and in Zone 4 it tied with Warrior, these varieties being the lowest yielding in this Zone. In general it ranked fifth, outyielding Rex by .2 bushel and Warrior by 8.8

bushels. **Earliness.**—Some variation occurred within the zone, but an average of the whole project shows that Regal ranked fourth, having exceeded Rex, Plush and O.A.C. 21. **Height.**—Regal showed fairly good height, and in two out of the three zones it ranked second to O.A.C. 21. **Straw Strength.**—In general Regal tied with Rex and Prospect. It was somewhat inferior to Warrior, but was superior to the other varieties. **Neck Strength.**—Although some variation occurred in the three zones, over the entire project it exceeded Newal and O.A.C. 21 but was slightly inferior to the other varieties. **Bushel Weight.**—Averaging 46.7 lbs., a general comparison shows that with the exception of Warrior, Regal was exceeded by all varieties by differences ranging from .8 lb. to 4.4 lbs. **Grades.**—The commercial grades placed on Regal were lower than the grades of the other six-rowed smooth-awned varieties. Over the whole project Regal graded as follows: 3 C.W. 67.8%, 1 Fd. 3.6%, 2 Fd. 21.4%, and 3 Fd. 7.2%. **1942 Results and 1943 Official Recommendations.**—Regal made its best showing in Zone 2 where it ranked third in yield. Regal was the lowest yielding variety in Zone 4, and was sixth in Zone 3. Regal is officially recommended for use in the greater part of Zone 2, in part of Zone 3, and in all of Zone 4.

REX

Yield.—Taking the tests as a whole, Rex showed an average yield of 53.2 bushels per acre. Although some variation occurred in the different zones, in general Rex was outyielded by the six-rowed, smooth-awned varieties, but in two out of the three zones it exceeded both Warrior and O.A.C. 21. **Earliness.**—Warrior was the only variety which exceeded Rex in "earliness" by any marked difference. **Height.**—In Zones 1 and 2 Rex ranked second in height, being exceeded only by O.A.C. 21, but in Zone 4 it was slightly shorter than a number of the other varieties. **Straw Strength.**—In general Rex tied with Regal and Prospect, and with the exception of Warrior was superior to the other varieties. **Neck Strength.**—Rex was slightly inferior to Warrior but equalled or showed superiority to all other varieties. **Bushel Weight.**—Averaging over the entire test 51.1 lbs. per measured bushel, Rex excelled in all zones. **Grades.**—Rex graded well and over the whole project the commercial grades placed on this variety were 2 C.W. 2 Row 78.5%, 1 Fd. 21.5%. **1942 Results and 1943 Official Recommendations.**—Rex showed to best advantage in Zone 2 where it ranked fourth in yield and was high in bushel weight and commercial grades. It was also comparatively satisfactory in yield in Zones 3 and 4 and was again high in bushel weight and commercial grades. Rex is officially recommended for use in all of Zone 2 and in the greater part of Zone 3.

WARRIOR

Yield.—Warrior showed its best comparative yield in Zone 4 where it exceeded Regal, Rex and O.A.C. 21. In the other zones, however, it was outyielded by all other varieties. **Earliness.**—Warrior ripened decidedly earlier than the other varieties by differences which ranged from 4.4 days to 5.4 days. **Height.**—Warrior was shorter than the other varieties by differences ranging from 3.1 inches to 8.4 inches. **Straw Strength.**—Warrior excelled in this characteristic in Zones 3 and 4, but in Zone 2 it was slightly inferior to some of the other varieties. **Neck Strength.**—In general Warrior either tied or was superior to other varieties. **Bushel Weight.**—Warrior was decidedly low in bushel weight. Over the whole test it averaged 40.4 lbs., and was exceeded by the other varieties by differences ranging from 6.3 lbs. to 10.7 lbs. **Grades.**—The commercial grades placed on the Warrior variety are shown as follows: 1 Fd. 10.7%, 2 Fd. 21.5%, 3 Fd. 67.8%. **1942 Results and 1943 Official Recommendations.**—Warrior showed its best comparative yield in Zone 4, where it ranked fourth. In the other zones, however, it was outyielded by all other varieties. Warrior was earlier than the other varieties by marked differences. It was, however, low in bushel weight and commercial grades. Warrior has not as yet been officially recommended for use in any zone, but is listed in the 1943 recommendations as being a promising new feed variety.

TABLE NO. 43.
Individual Summarized Results for all Tests—BARLEY

WHEAT POOL DISTRICT 1

Cereal Variety	Test Sub- Zone	desig- dist.	Test desig- nation	Yield per acre	bus. height in inches	Plant days seed- ripening	Straw strength	Neck strength	Lbs. per meas- ured bushel	Commercial grades	Remain- der
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JAMES DONALD ARTS, MIDALE

2A	1	6	B	Regal	42.5	30	96	10.0	1.0	43.0	2 Fd.	LW.
..	Rex	50.9	32	95	10.0	1.3	51.0	2 CW 2 R	Bp.
..	..	..	..	Warrior	33.6	31	89	10.0	1.0	35.0	3 Fd.	LW.
..	..	..	..	Plush	47.3	31	94	9.6	1.3	44.0	2 Fd.	LW.
..	..	..	..	Prospect ..	46.1	29	95	8.6	1.3	49.0	3 CW 6 R	
..	..	..	..	Newal	35.5	31	95	9.3	1.7	45.0	2 Fd.	LW.
..	..	..	..	OAC 21	42.8	33	96	8.6	1.0	47.0	3 CW 6 R	T.I.

No significant yield difference between varieties.

JAMES F. HEWLETT, GRIFFIN

2A	1	8	B	Regal	59.4	46	93	10	3.0	44.5	2 Fd.	
..	..	..	..	Rex	58.8	42	94	10	3.0	50.5	2 CW 2 R	LW.
..	..	..	..	Warrior	43.5	37	89	10	3.0	40.0	3 Fd.	
..	..	..	..	Plush	60.9	44	93	10	3.0	46.0	3 CW 6 R	
..	..	..	..	Prospect ..	50.6	46	93	10	2.0	47.5	3 CW 6 R	
..	..	..	..	Newal	46.4	40	94	10	2.0	44.0	2 Fd.	
..	..	..	..	OAC 21	49.8	47	93	10	3.0	47.0	3 CW 6 R	

No significant yield difference between varieties.

MABEL BERNICE BORRESON, ANTLER

3A	1	10	B	Regal	29.0	29	83	8.0	1.0	42.0	3 Fd.	LW.
..	..	..	..	Rex	28.4	33	84	8.0	2.0	47.0	1 Fd.	LW.
..	..	..	..	Warrior	29.0	30	73	9.0	1.0	38.0	3 Fd.	LW.
..	..	..	..	Plush	38.9	31	86	10.0	1.0	46.0	3 CW 6 R	
..	..	..	..	Prospect ..	40.5	30	85	10.0	2.0	48.0	3 CW 6 R	
..	..	..	..	Newal	25.8	32	83	8.0	1.0	43.0	2 Fd.	
..	..	..	..	OAC 21	40.4	36	86	10.0	1.0	46.0	3 CW 6 R	

Necessary difference—4.4 bushels.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

2A 1 .. 4B Arthur Denzil Aspinall, North Portal

WHEAT POOL DISTRICT 2

ANDRE RAOUL PALMIER, LaFLECHE

1A	2	6	B	Regal	76.2	42	90	7.0	2.0	44.5	2 Fd.	
..	..	..	..	Rex	69.4	43	94	9.0	1.0	49.0	2 CW 2 R	LW.
..	..	..	..	Warrior	75.5	36	89	10.0	1.0	42.0	3 Fd.	LW.
..	..	..	..	Plush	68.3	46	94	7.0	2.0	43.5	2 Fd.	
..	..	..	..	Prospect ..	77.8	42	94	8.0	2.0	46.0	3 CW 6 R	
..	..	..	..	Newal	84.2	48	95	8.0	2.0	46.0	3 CW 6 R	
..	..	..	..	OAC 21	70.6	50	93	1.0	3.0	43.0	2 Fd.	LW.

No significant yield difference between varieties.

MISS ANNA YORGA, FLINTOFF

1A	2	7	B	Regal	32.3	31	93	9.3	2.3	47.0	3 CW 6 R	
..	..	..	..	Rex	33.0	30	90	9.3	2.0	52.0	2 CW 2 R	LW.
..	..	..	..	Warrior	31.6	24	90	10.0	1.0	38.0	3 Fd.	
..	..	..	..	Plush	42.6	30	94	8.7	2.0	46.0	3 CW 6 R	
..	..	..	..	Prospect ..	32.3	26	91	8.0	1.7	48.0	3 CW 6 R	
..	..	..	..	Newal	41.4	27	92	8.3	3.0	47.0	3 CW 6 R	
..	..	..	..	OAC 21 .....	....	27	92	8.3	3.0	....	....

Samples bulked.

WHEAT POOL DISTRICT 6

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

2A 6 .. 1B John Edgar O'Bryne, Lewvan
2A 6 .. 3B Carl A. Weisshaar, Jr., Wilcox

WHEAT POOL DISTRICT 7

Cereal Variety Zone	Sub- Dist.	Test desig- nation	Yield bus. Varieties	Plant per acre	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per meas- ured bushel			Commercial grades	Grading remarks
								3	7	2 R		

DONALD WILLIAM DEBENHAM, KENNEDY

2A	7	3	A	Regal	70.6	38	94	9.0	1.0	46.0	3 CW 6 R
	..	..	..	Rex	73.4	36	92	9.0	1.0	51.0	2 CW 2 R
	..	..	..	Warrior ..	57.0	32	89	8.0	1.0	38.0	3 Fd.
	..	..	..	Plush	74.4	35	96	9.0	1.0	48.0	3 CW 6 R
	..	..	..	Prospect ..	79.0	35	94	9.0	1.0	49.0	3 CW 6 R
	..	..	..	Newal	71.7	32	93	7.0	3.0	49.0	3 CW 6 R
	..	..	..	OAC 21	68.1	35	93	7.0	3.0	48.0	2 CW 6 R
											T.I.

Necessary difference—6.4 bushels.

FRED ALEXANDER EASTON, HIGHVIEW

3A	7	3	B	Regal	67.4	36	93	9.3	1.7	47.5	3 CW 6 R
	..	..	..	Rex	75.5	35	94	8.0	1.0	51.0	2 CW 2 R
	..	..	..	Warrior ..	65.3	34	86	8.3	1.0	41.0	3 Fd.
	..	..	..	Plush	76.9	39	94	8.0	1.0	49.0	3 CW 6 R
	..	..	..	Prospect ..	76.6	35	91	8.0	1.3	49.0	3 CW 6 R
	..	..	..	Newal	76.4	37	92	7.7	3.0	46.0	3 CW 6 R
	..	..	..	OAC 21	71.4	36	94	8.0	2.7	48.5	3 CW 6 R
											G.T.I.

No significant yield difference between varieties.

BRUCE TULLY WHITE, INCHKEITH

3A	7	4	B	Regal	53.0	40	102	9	2	45.5	2 Fd.
	..	..	..	Rex	47.9	35	102	10	3	51.0	2 CW 2 R
	..	..	..	Warrior ..	41.8	30	103	5	3	37.0	3 Fd.
	..	..	..	Plush	57.3	35	103	9	1	46.0	3 CW 6 R
	..	..	..	Prospect ..	57.5	31	104	9	1	47.0	3 CW 6 R
	..	..	..	Newal	51.2	36	99	10	3	44.5	2 Fd.
	..	..	..	OAC 21	55.3	44	101	9	2	46.5	3 CW 6 R
											L.W.

No significant yield difference between varieties.

RALPH R. W. JACOBSON, STOCKHOLM

3A	7	9	B	Regal	30.8	29	94	7.0	3.0	44.0	2 Fd.
	..	..	..	Rex	40.7	29	89	9.0	1.0	49.0	2 CW 2 R
	..	..	..	Warrior ..	29.3	25	85	6.3	1.0	40.0	3 Fd.
	..	..	..	Plush	43.7	29	95	9.0	2.0	47.0	3 CW 6 R
	..	..	..	Prospect ..	39.7	29	89	9.0	1.0	49.5	3 CW 6 R
	..	..	..	Newal	35.8	30	89	8.0	2.0	46.0	3 CW 6 R
	..	..	..	OAC 21	40.6	34	95	9.0	3.0	48.0	2 CW 6 R
											L.W.

Samples bulked.

WILLIAM KLEIN, GRAYSON

3A	7	10	B	Regal	58.3	...	...	...	...	46.0	3 CW 6 R
	..	..	..	Rex	57.5	...	...	...	...	50.0	1 Fd.
	..	..	..	Warrior ..	54.6	...	...	...	...	42.0	3 Fd.
	..	..	..	Plush	64.5	...	...	...	...	48.0	3 CW 6 R
	..	..	..	Prospect ..	57.4	...	...	...	...	45.0	2 Fd.
	..	..	..	Newal	60.6	...	...	...	...	47.0	3 CW 6 R
	..	..	..	OAC 21	55.9	...	...	...	...	46.0	3 CW 6 R
											W.

No significant yield difference between varieties.

WHEAT POOL DISTRICT 8

3B	8	1	B	Regal	59.3	48	...	8.3	2.0	45.0	2 Fd.	
											L.W.	L.W.
	Rex	48.2	45	...	9.0	1.0	47.0	1 Fd.	L.W.
	Warrior ..	42.5	42	...	10.0	1.0	39.0	3 Fd.	L.W.
	Plush	50.8	51	...	8.3	1.7	46.0	3 CW 6 R	
	Prospect ..	61.5	42	...	9.3	1.0	48.0	3 CW 6 R	
	Newal	53.0	45	...	8.7	2.0	46.0	3 CW 6 R	
	OAC 21	69.7	51	...	9.3	2.0	47.0	3 CW 6 R	G.W.

Necessary difference—9.8 bushels.

Wheat Pool District 8—Continued

Cereal Variety Zone	Sub- Dist.	Test desig- nation	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per bushel	meas- ured	Commercial grades	Grading remain-
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PETER MICHAEL TOMILIN, VEREGIN

3B	8	5	B	Regal	18.7	...	93	3.0	2.0	38.5	3 Fd.	Lw.
..	Rex	21.3	...	93	9.0	3.0	43.5	2 Fd.	Lw.
..	..	..	..	Warrior .....	...	...	...	...	...	...	...	Lw.
..	..	..	..	Plush	26.6	...	100	10.0	3.0	40.0	3 Fd.	Lw.
..	..	..	..	Prospect	22.4	...	100	10.0	3.0	36.0	3 Fd.	Lw.
..	..	..	..	Newal	11.9	...	93	4.0	2.0	40.0	3 Fd.	Lw.
..	..	..	..	OAC 21	35.5	...	100	10.0	3.0	42.0	3 Fd.	Lw.

Samples bulked.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

3C 8 .. 3B Douglas David Wotherspoon, Melville

3C 8 .. 7B Grant Elgin Turner, Invermay

WHEAT POOL DISTRICT 9

WILLIAM ANGUS JOHNSTON, EARL GREY

2B	9	4	B	Regal	55.6	28	87	7.3	2.7	45.0	2 Fd.	Lw.
..	..	..	..	Rex	53.2	29	87	7.7	2.7	50.0	2 CW 2 R	Lw.
..	..	..	..	Warrior	30.4	25	83	2.7	1.0	34.5	3 Fd.	Lw.
..	..	..	..	Plush	62.2	30	87	5.0	2.7	45.5	3 CW 6 R	Lw.
..	..	..	..	Prospect	59.6	28	87	7.3	3.0	50.0	3 CW 6 R	Lw.
..	..	..	..	Newal	56.2	29	87	7.3	2.7	46.0	3 CW 6 R	Lw.
..	..	..	..	OAC 21	62.3	29	87	7.7	2.3	47.0	3 CW 6 R	Lw.

Necessary difference—8.7 bushels.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

3C 9 .. 1B Miss Dorothy Sayko, Hubbard

WHEAT POOL DISTRICT 10

REIDAR ANDERSON, LOREBURN

2B	10	6	B	Regal	89.4	46	100	5.3	1.7	46.0	3 CW 6 R	Bp.
..	..	..	..	Rex	74.9	45	99	7.0	1.7	50.0	2 CW 2 R	Lw.
..	..	..	..	Warrior	80.9	32	98	8.7	1.3	38.0	3 Fd.	Lw.
..	..	..	..	Plush	79.2	42	99	6.3	2.3	46.0	3 CW 6 R	Lw.
..	..	..	..	Prospect	73.2	40	99	6.7	2.3	43.0	2 Fd.	Lw.
..	..	..	..	Newal	93.1	42	100	7.7	2.7	49.0	3 CW 6 R	Lw.
..	..	..	..	OAC 21	83.5	50	100	2.7	3.0	44.0	2 Fd.	Lw.

No significant yield difference between varieties.

RUSSELL CARDINAL GIRVAN, SWANSON

2B	10	10	B	Regal	28.9	32	95	8.3	2.0	48.5	3 CW 6 R	Lw.
..	..	..	..	Rex	30.4	31	96	9.3	1.0	53.0	2 CW 2 R	Lw.
..	..	..	..	Warrior	29.6	23	94	9.7	1.0	40.0	3 Fd.	Lw.
..	..	..	..	Plush	40.1	31	93	7.3	1.7	48.0	3 CW 6 R	Lw.
..	..	..	..	Prospect	35.1	27	95	9.0	1.3	48.0	3 CW 6 R	Lw.
..	..	..	..	Newal	22.3	33	96	8.7	2.3	48.0	3 CW 6 R	Lw.
..	..	..	..	OAC 21	29.1	37	93	4.7	3.0	48.0	2 CW 6 R	Lw.

Necessary difference—4.7 bushels.

WHEAT POOL DISTRICT 13

Cereal Variety Zone	Sub- Dist.	Test desig- nation	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per bushel	meas- ured	Commercial grades	Grading remain-
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ALMER WOIDEN, YOUNG

2B	13	2	B	Regal	48.2	38	92	9.7	1.0	47.0	3 CW 6 R	Lw.
..	Rex	34.3	38	95	9.0	1.0	52.0	2 CW 2 R	Lw.
..	..	..	..	Warrior	33.9	32	86	10.0	1.0	42.0	3 Fd.	Lw.
..	..	..	..	Plush	41.6	37	97	9.0	1.5	47.0	3 CW 6 R	Lw.
..	..	..	..	Prospect	53.5	34	92	9.3	1.0	50.0	3 CW 6 R	Lw.
..	..	..	..	Newal	36.0	34	97	8.7	1.7	46.0	3 CW 6 R	Lw.
..	..	..	..	OAC 21	27.0	37	97	9.3	1.3	48.5	2 CW 6 R	Lw.

Necessary difference—10.5 bushels.

Wheat Pool District 13—Continued

Cereal Variety Zone	Sub- Dist.	Test dist. nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to Straw ripening	Neck strength	Lbs. per bushel	meas- ured			Commercial grades	Grading remarks
									Days seed- ing to Straw ripening	Straw strength	Neck strength		

CLARE JAMES PAUR, LANGHAM

2B	13	5	B	Regal	53.3	40	....	9.0	....	49.5	3 CW 6 R	
..	..	..	..	Rex	51.2	43	....	9.5	....	53.0	2 CW 2 R	
..	..	..	..	Warrior	34.6	36	....	8.5	....	38.5	3 Fd.	LW.
..	..	..	..	Plush	68.6	39	....	8.2	....	48.0	3 CW 6 R	
..	..	..	..	Prospect	65.2	36	....	8.3	....	49.5	3 CW 6 R	
..	..	..	..	Newal	46.7	39	....	9.3	....	50.0	3 CW 6 R	
..	..	..	..	OAC 21	40.2	42	....	8.8	....	50.0	2 CW 6 R	

Necessary difference—13.2 bushels.

WILFRED DIEDERICH, CUDWORTH

3E	13	9	B	Regal	61.9	40	103	10.0	1.0	46.0	3 CW 6 R	
..	..	..	..	Rex	55.3	44	104	10.0	1.0	52.0	2 CW 2 R	
..	..	..	..	Warrior	45.0	38	99	10.0	1.0	36.5	3 Fd.	
..	..	..	..	Plush	73.2	41	103	6.0	1.0	50.5	3 CW 6 R	
..	..	..	..	Prospect	74.7	38	105	10.0	1.0	47.0	3 CW 6 R	
..	..	..	..	Newal	70.1	39	103	9.0	2.0	48.5	3 CW 6 R	
..	..	..	..	OAC 21	67.9	45	102	7.0	2.0	50.0	2 CW 6 R	

Necessary difference—11.8 bushels.

ZYGMUNT YUZAK, ALVENA

3E	13	9	C	Regal	60.0	42	....	8.0	2.0	44.5	2 Fd.	LW.
..	..	..	..	Rex	73.1	44	....	9.0	1.0	54.0	2 CW 2 R	
..	..	..	..	Warrior	28.5	36	....	9.0	2.0	33.0	3 Fd.	LW.
..	..	..	..	Plush	50.3	45	....	3.0	2.0	48.0	3 CW 6 R	
..	..	..	..	Prospect	79.3	40	....	7.0	2.0	49.0	3 CW 6 R	
..	..	..	..	Newal	53.4	42	....	9.0	3.0	49.0	3 CW 6 R	
..	..	..	..	OAC 21	66.3	41	....	4.0	3.0	47.0	3 CW 6 R	LW.

Necessary difference—14.0 bushels.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

2B 13 .. 8B Nicholas Leuschen, Bruno

WHEAT POOL DISTRICT 14

DAVID PETRIE, LINTLAW

4A	14	1	B	Regal	28.2	....	....	....	....	40.0	3 Fd.	LW.
..	..	..	..	Rex	22.5	....	....	....	....	48.0	1 Fd.	T.G.
..	..	..	..	Warrior	28.9	....	....	....	....	33.0	3 Fd.	
..	..	..	..	Plush	67.7	....	....	....	....	49.0	3 CW 6 R	
..	..	..	..	Prospect	55.9	....	....	....	....	46.5	3 CW 6 R	
..	..	..	..	Newal	45.7	....	....	....	....	42.0	3 Fd.	LW.
..	..	..	..	OAC 21	45.2	....	....	....	....	46.0	3 CW 6 R	

Samples bulked.

JOHN WEBER, McKAGUE

3D	14	6	B	Regal	69.2	40	90	8.7	1.7	46.0	3 CW 6 R	
..	..	..	..	Rex	55.3	47	93	10.0	1.0	50.0	2 CW 2 R	Bp.
..	..	..	..	Warrior	47.4	38	87	10.0	1.0	40.5	3 Fd.	LW.
..	..	..	..	Plush	61.2	46	91	8.3	2.0	46.0	3 CW 6 R	
..	..	..	..	Prospect	49.6	41	91	10.0	1.0	48.0	3 CW 6 R	
..	..	..	..	Newal	70.3	47	89	10.0	1.0	48.0	3 CW 6 R	
..	..	..	..	OAC 21	78.6	53	91	8.3	2.3	47.0	3 CW 6 R	T.I.

Necessary difference—8.8 bushels.

JIM R. TATLOW, RESOURCE

3D	14	7	B	Regal	53.7	48	101	7.3	1.7	47.0	3 CW 6 R	
..	..	..	..	Rex	52.6	48	101	6.0	1.3	54.0	2 CW 2 R	
..	..	..	..	Warrior	37.2	37	94	10.0	1.0	41.0	3 Fd.	LW.
..	..	..	..	Plush	47.8	49	101	5.7	2.0	48.0	3 CW 6 R	
..	..	..	..	Prospect	56.2	41	99	6.7	2.0	49.5	3 CW 6 R	
..	..	..	..	Newal	56.4	46	99	7.0	2.7	49.5	3 CW 6 R	
..	..	..	..	OAC 21	51.7	51	100	6.3	2.0	51.0	2 CW 6 R	

No significant yield difference between varieties.

DONALD BERRY, ARMLEY

3D	14	9	B	Regal	60.0	40	96	8.0	2.0	49.5	3 CW 6 R	
..	..	..	..	Rex	61.4	48	97	9.0	2.0	54.0	2 CW 2 R	
..	..	..	..	Warrior	59.7	37	96	10.0	1.0	43.5	2 Fd.	LW.
..	..	..	..	Plush	70.5	39	97	9.0	1.0	50.0	3 CW 6 R	
..	..	..	..	Prospect	50.4	38	98	8.7	1.3	50.0	3 CW 6 R	
..	..	..	..	Newal	59.6	45	99	8.0	2.7	50.0	3 CW 6 R	
..	..	..	..	OAC 21	69.6	46	94	6.0	3.0	50.5	2 CW 6 R	

Necessary difference—8.9 bushels.

Wheat Pool District 14—Continued

Cereal Variety Zone	Sub- Dist.	Test desig- nation	Varieties	Yield per acre	bus. height in inches	Plant ing to ripening	Days seed- ing	Straw strength	Neck strength	Lbs. per bushel	meas- ured Commercial grades	Grading remarks
3D	14	10	B	Regal	50.6	48	90	9.7	2.3	51.0	3 CW 6 R	E.
..	Rex	60.7	45	91	8.0	2.7	55.0	2 CW 2 R	
..	Warrior	62.3	36	87	10.0	3.0	46.0	1 Fd.	
..	Plush	78.1	45	88	6.0	2.0	50.0	3 CW 6 R	
..	Prospect	57.9	36	89	9.0	1.0	49.5	3 CW 6 R	
..	Newal	79.9	42	87	9.0	1.7	50.5	3 CW 6 R	
..	OAC 21	67.2	48	87	7.7	1.3	51.0	2 CW 6 R	

Necessary difference—14.3 bushels.

WHEAT POOL DISTRICT 15

HARRY ZELOWSKY, DAVIS												
3E	15	2	B	Regal	67.5	40	89	7.7	...	47.5	3 CW 6 R	
..	Rex	71.0	39	92	5.7	...	53.0	2 CW 2 R	Lw.
..	Warrior	49.5	35	84	9.7	...	40.0	3 Fd.	
..	Plush	57.5	42	90	4.7	...	48.0	3 CW 6 R	
..	Prospect	66.4	38	88	4.0	...	46.0	3 CW 6 R	
..	Newal	80.3	37	87	6.7	...	48.0	3 CW 6 R	
..	OAC 21	82.6	44	90	5.0	...	50.5	2 CW 6 R	

Necessary difference—14.0 bushels.

HERBERT IRWIN KREUGER, DUCK LAKE

3E	15	3	C	Regal	42.5	19	95	5.0	2.0	47.0	3 CW 6 R	5% Pl.
..	Rex	25.2	35	95	4.0	1.3	51.0	2 CW 2 R	3% Pl.
..	Warrior	46.1	27	92	2.0	3.0	43.0	2 Fd.	Lw.
..	Plush	25.1	29	94	2.3	1.3	47.0	1 Fd.	10% Pl.
..	Prospect	32.2	31	96	5.3	2.0	46.5	3 CW 6 R	4% Pl.
..	Newal	34.5	23	96	4.0	2.7	48.0	3 CW 6 R	
..	OAC 21	27.0	27	95	3.0	3.0	47.0	1 Fd.	7% Pl.

No significant yield difference between varieties.

RAYMOND ARTHUR LaROSE, WOOD HILL

3E	15	6	B	Regal	46.1	44	91	10	2.0	50.0	3 CW 6 R	
..	Rex	63.5	43	91	10	1.0	55.0	2 CW 2 R	Lw.
..	Warrior	70.5	37	91	10	1.0	44.5	2 Fd.	
..	Plush	60.2	44	91	9	1.0	53.0	3 CW 6 R	
..	Prospect	72.5	42	91	9	2.0	50.0	3 CW 6 R	
..	Newal	67.7	44	91	8	3.0	52.0	3 CW 6 R	
..	OAC 21	46.8	42	91	9	3.0	53.0	2 CW 6 R	

Samples bulked.

WILLIAM DOUGLAS HENRY, WILD ROSE

3E	15	8	B	Regal	75.6	40	96	6.0	1.0	49.0	3 CW 6 R	W.
..	Rex	78.7	50	94	3.0	2.0	54.0	1 Fd.	M.
..	Warrior	67.1	33	86	10.0	1.0	44.0	2 Fd.	
..	Plush	86.2	48	98	5.0	1.0	48.5	3 CW 6 R	W.
..	Prospect	71.9	40	96	7.0	1.0	49.5	1 Fd.	
..	Newal	71.4	42	94	7.0	1.0	49.0	3 CW 6 R	
..	OAC 21	82.5	44	96	5.0	2.0	50.0	3 CW 6 R	

No significant yield difference between varieties.

ARTHUR EDWIN CLAPSON, RIDGEDALE

3D	15	10	B	Regal	67.9	33	94	10.0	1.0	49.0	3 CW 6 R	
..	Rex	68.2	33	95	10.0	1.0	54.0	2 CW 2 R	
..	Warrior	49.7	25	88	10.0	1.0	43.0	2 Fd.	
..	Plush	76.6	30	95	10.0	1.0	50.0	3 CW 6 R	
..	Prospect	54.0	25	94	9.0	2.0	48.5	3 CW 6 R	
..	Newal	65.1	28	94	9.0	2.0	49.0	3 CW 6 R	
..	OAC 21	72.6	34	95	9.0	2.0	48.0	2 CW 6 R	

Necessary difference—20.6 bushels.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

3E	15	..	3B	Richard Malcolm Anderson, Duck Lake
3E	15	..	4B	Eldon Harold Krause, Rosthern
3E	15	..	7B	Irvin William Jung, Mont Nebo
4B	15	..	9B	George Edward Buchanan, Weirsdale

WHEAT POOL DISTRICT 16

Cereal Zone	Variety	Sub- dist.	Test desig- nation	Yield bus. acres	Plant height in inches	Days seed- ing to Straw ripening	Neck strength	Lbs. per bushel	Lbs. per meas- ured bushel			Commercial grades	Grading remarks
									Straw strength	Neck strength			

CRAWFORD BAKER, FIELDING

SE	16	1	B	Regal	34.4	36	93	10.0	1.0	48.0	3 CW 6 R
	..	..	..	Rex	37.5	40	90	10.0	1.0	53.5	2 CW 2 R
	..	..	..	Warrior	32.8	27	88	10.0	1.0	44.0	2 Fd.
	..	..	..	Plush	50.1	37	92	9.7	1.0	49.0	3 CW 6 R
	..	..	..	Prospect ..	34.5	33	92	10.0	1.0	50.0	3 CW 6 R
	..	..	..	Newal	50.7	40	93	9.3	2.7	50.5	3 CW 6 R
	..	..	..	OAC 21	37.9	45	92	9.3	2.7	50.0	2 CW 6 R

No significant yield difference between varieties.

DONALD EDWARD TRUEMNER, MIDNIGHT LAKE

4B	16	9	C	Regal	38.0	26	94	10.0	2.0	47.5	1 Fd.	M.
	..	..	..	Rex	31.2	25	93	10.0	1.0	53.0	1 Fd.	M.
	..	..	..	Warrior	37.8	22	90	10.0	1.0	46.5	1 Fd.	LW.
	..	..	..	Plush	37.5	25	93	10.0	1.0	47.0	1 Fd.	M.
	..	..	..	Prospect ..	34.9	23	92	10.0	1.0	47.0	3 CW 6 R	Bp.
	..	..	..	Newal	38.5	26	91	10.0	3.0	50.0	3 CW 6 R	
	..	..	..	OAC 21	33.5	28	95	10.0	2.0	47.0	3 CW 6 R	LW.

Necessary difference—3.5 bushels.

ROBERT OWEN JORDAN, BAPAUME

4B	16	10	B	Regal	54.3	47	102	8.3	2.0	49.0	3 CW 6 R
	..	..	..	Rex	49.2	44	104	8.0	1.7	54.0	2 CW 2 R
	..	..	..	Warrior	39.3	33	93	4.7	1.7	47.0	1 Fd.
	..	..	..	Plush	57.6	45	104	8.7	1.7	49.0	3 CW 6 R
	..	..	..	Prospect ..	39.8	41	104	7.0	2.0	50.0	3 CW 6 R
	..	..	..	Newal	56.1	45	99	8.0	2.7	51.0	3 CW 6 R
	..	..	..	OAC 21	43.7	48	102	9.0	2.7	48.0	2 CW 6 R

No significant yield difference between varieties.



The Flax Test of Richard Strayer, Drinkwater.

FLAX-WHEAT TESTS

As could be expected, comparative yield variations occurred between the three flax varieties in the different tests. Redwing ranked first in nine out of the fourteen tests. In the northern districts it was a consistently high yielder. Royal excelled in five tests and, of course, showed its best comparative yield in the regions where flax rust was most severe. Bison ranked second to Redwing in three tests, and second to Royal in four tests. In all other tests it was the lowest yielder. Thatcher wheat was included in these tests in order that some information would be available in connection with the comparative yield of flax and the predominant wheat variety when considered as cash crops. Comparisons were made on the basis of the prices set by the Canadian Wheat Board for the season 1942 and 1943, and the results show that in twelve out of the fourteen tests the value of flax was decidedly higher than the value of wheat. Taking the tests as a whole, the average value per acre of Thatcher was \$22.8 while the value of the three flax varieties were shown as follows: Redwing \$31.1, Royal \$31.0, Bison \$27.3. In so far as the two latter varieties are concerned it will be noted that the slight superiority in commercial grades resulted in Redwing taking first place as a cash crop although in general, it was slightly inferior to Royal in yield. In the foregoing comparisons no allowance was made for dockage in connection with flax or wheat. The percentage of dockage in flax would, of course, be considerably higher than for wheat, and if dockage was considered, the comparative values of flax would be lower than is shown in this report. However, even after taking dockage into consideration, it would appear that flax is still decidedly superior to wheat as a cash crop.

FLAX

Table No. 44 shows the individual results of the flax tests. As this part of the project was limited, no attempt has been made to analyze the results either by Cereal Variety Zones or by Soil Climatic Zones.

TABLE NO. 44.

Individual Summarized Results of All Tests—FLAX

WHEAT POOL DISTRICT 1

Cereal Variety	Sub- Zone	Dist. dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Pounds per bushel	Commercial grades	Grading remarks	Cash value per acre
EMIL OLIVER DANGSTROP, WAUCHEPPE										
3A	1	10	Royal	14.1	...	...	53.5	1 CW		31.72
..	..	..	Redwing	17.1	...	...	56.0	1 CW		38.47
..	..	..	Bison	11.8	...	...	51.5	2 CW	Dgd.	26.08
..	..	..	Thatcher	25.2	...	...	56.0	4 No.		19.90

Necessary grain yield difference in bushels per acre—2.8 (Flax only).

WHEAT POOL DISTRICT 4

WILFRED SANDOW, MAPLE CREEK										
1B	4	2	Royal	15.0	19	116	53.0	1 CW		33.75
..	Redwing	13.0	20	102	55.0	1 CW		29.25
..	Bison	14.7	21	112	51.0	1 CW		33.07
..	Thatcher	21.3	30	108	61.5	2 No.	Bl.	18.53

No significant yield difference between varieties (Flax only).

JAMES EARL HOWES, SCEPTRE

1B	4	9	Royal	24.6	29	110	53.0	2 CW		54.34
..	Redwing	22.4	29	101	55.0	2 CW		49.50
..	Bison	20.8	29	103	51.0	2 CW		45.96
..	Thatcher .....	..	41	114	...			...

Necessary grain yield difference in bushels per acre—1.8 (Flax only).

WHEAT POOL DISTRICT 6

EARNEST WOLDEMAR RICHTER, YELLOW GRASS										
2A	6	1	Royal	12.8	...	...	54.0	2 CW		28.28
..	Redwing	8.8	...	...	54.5	1 CW		19.80
..	Bison	6.5	...	...	53.0	2 CW		14.36
..	Thatcher .....	..	...	...	...			...

Necessary grain yield difference in bushels per acre—1.6 (Flax only).

WHEAT POOL DISTRICT 7

NORMAN YATES, GRENFELL										
3A	7	7	Royal	20.5	26	137	53.5	2 CW		45.30
..	Redwing	7.7	25	126	53.0	2 CW		17.01
..	Bison	11.1	26	130	52.0	2 CW		24.53
..	Thatcher	27.7	37	105	64.0	No. 5		21.05

Necessary grain yield difference in bushels per acre—2.9 (Flax only).

SAMUEL ACTON, LEMBERG

3A	7	10	Royal	15.1	21	...	52.0	2 CW		33.37
..	Redwing	10.9	23	...	54.0	1 CW		24.52
..	Bison	11.1	25	...	50.0	2 CW		24.53
..	Thatcher	22.6	35	...	59.0	4 No.		17.85

Necessary grain yield difference in bushels per acre—2.3 (Flax only).

WHEAT POOL DISTRICT 8

LILLIAN DEMCHUK, BURGIS										
3C	8	6	Royal	23.1	24	106	51.0	1 CW		51.97
..	Redwing	15.3	23	106	55.0	1 CW		34.42
..	Bison	23.5	24	104	54.0	1 CW		52.87
..	Thatcher .....	..	23	107	...			...

No significant yield difference between varieties (Flax only).

WHEAT POOL DISTRICT 9

Cereal Variety	Sub-Zone	Dist. dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Pounds per bushel	Commercial grades	Grading remarks	Cash value per acre
WALTER GALGER, STRASBOURG										
2B	9	4	Royal	9.0	...	...	52.5	1 CW		22.27
..	..	..	Redwing	16.3	...	...	55.0	1 CW		36.67
..	..	..	Bison	12.8	...	...	53.0	1 CW		27.67
..	..	..	Thatcher ..	23.6	...	...	61.5	1 No.		21.24

Necessary grain yield difference in bushels per acre—2.2. (Flax only).

KENNETH CLINTON BURKHART, GUERNSEY										
2B	9	6	Royal	13.2	27	104	52.0	2 CW		29.17
..	..	..	Redwing	11.3	27	102	55.0	1 CW		25.42
..	..	..	Bison	11.0	28	103	51.0	2 CW		24.31
..	..	..	Thatcher ..	25.2	27	91	62.0	3 No.		21.04

No significant yield difference between varieties (Flax only).

DOUGLAS BUVIK, KANDAHAR										
2B	9	8	Royal	6.9	24	...	56.0	1 CW		15.52
..	..	..	Redwing	8.9	23	...	55.0	1 CW		20.02
..	..	..	Bison	8.0	24	...	57.0	1 CW		18.00
..	..	..	Thatcher ..	22.5	32	...	60.0	3 No.		18.78

No significant yield difference between varieties (Flax only).

WHEAT POOL DISTRICT 10

RUSSELL IRWIN LUNNEY, MILDEN										
2B	10	4	Royal	14.0	27	133	54.5	2 CW	Dgd.	30.94
..	..	..	Redwing	18.2	24	127	56.0	1 CW		40.95
..	..	..	Bison	13.8	25	130	53.0	1 CW		31.05
..	..	..	Thatcher ..	37.6	43	124	61.0	3 No.	F.	31.39

No significant yield difference between varieties (Flax only).

WHEAT POOL DISTRICT 11

PHYLLIS EDITH PINCHBECK, MILLERDALE										
1A	11	9	Royal	5.3	24	123	54.0	1 CW		11.92
..	..	..	Redwing	7.7	24	121	55.5	1 CW		17.32
..	..	..	Bison	6.5	23	123	52.0	1 CW		14.62
..	..	..	Thatcher ..	21.0	32	120	61.0	1 No.		18.90

No significant yield difference between varieties (Flax only).

WHEAT POOL DISTRICT 12

MISS ANNA WINSEL, BIGGAR										
2D	12	1	Royal	21.3	...	...	52.0	2 CW		47.07
..	..	..	Redwing	18.4	...	...	55.0	1 CW		41.40
..	..	..	Bison	19.1	...	...	50.0	2 CW		42.21
..	..	..	Thatcher ..	31.6	...	...	60.5	No. 5		24.01

No significant yield difference between varieties (Flax only).

WHEAT POOL DISTRICT 14

IRVIN McCHESNEY, KELVINGTON										
3C	14	1	Royal	15.9	...	...	54.0	1 CW		35.77
..	..	..	Redwing	17.0	...	...	54.5	1 CW		38.25
..	..	..	Bison	15.0	...	...	53.5	1 CW		33.75
..	..	..	Thatcher ..	37.4	...	...	62.5	3 No.	I.	31.23

No significant yield difference between varieties (Flax only).

JOHN THIRKETTLE, AYLSHAM										
3D	14	10	Royal	18.3	26	139	48.0	3 CW	F.	38.43
..	..	..	Redwing	19.3	21	131	48.0	3 CW	F.	40.53
..	..	..	Bison	10.7	23	135	51.0	3 CW	F.	35.07
..	..	..	Thatcher ..	30.1	36	121	57.5	No. 6	F.	21.67

No significant yield difference between varieties (Flax only).

WHEAT POOL DISTRICT 16

Cereal Variety	Sub- Zone	Sub- dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Pounds per bushel	measured Commercial grades	Grading remarks	Cash value per acre
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JOHN L. MOORE, SPEERS

3E	16	2	Royal	12.1	18	112	59.0	2 CW	Dgd.	26.74
..	Redwing ..	13.9	18	102	53.0	1 CW		31.27
..	..	..	Bison	9.9	18	112	49.0	3 CW	Dgd.	20.79
..	..	..	Thatcher ..	35.1	36	....	59.0	1 No.		31.59

No significant yield difference between varieties (Flax only).

WILLIAM HARVEY TURCOTTE, DORINTOSH

4B	16	9	Royal	16.2	30	102	52.0	4 CW		33.21
..	..	..	Redwing ..	16.7	30	102	52.0	3 CW		35.07
..	..	..	Bison	12.5	30	102	52.0	4 CW		25.62
..	..	..	Thatcher ..	33.5	40	116	59.0	Fd.		22.78

No significant yield difference between varieties (Flax only).

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

1A	1	7	Robert Burns Nelson, Oungre
1A	2	8	Harold Lovick, Viceroy
1A	2	9	Carl Olson, Bures
1A	3	8	Kenneth Wilkins, Shaunavon
1A	5	10	Donald William Weppler, Morse
2A	6	6	Richard Carl Strayer, Drinkwater
2D	12	9	Glen Stanley Stewart, Phippen
3D	14	7	Robert Earl Chapman, Ethelton
4B	15	9	Tony Kuzyk, Meath Park
3E	16	8	Jacob Giesel, Jr., Turtleford *

CONCLUSION

Because of the abnormal weather conditions which prevailed in 1942, the comparative performance of a number of the varieties used in the tests cannot be considered as their average performance over a period of years. Varieties which have proved superior in a dry season showed decided inferiority in 1942, and those varieties which have little or no drought resistance far surpassed their known average performance.

In view of this it cannot be stressed too strongly that the results as shown represent those of one year only, when ample moisture was received throughout practically the whole of the growing season. Despite this fact, however, the project fully justified the work expended upon it. It gave to each of the co-operators a clear example of an accurate comparative test of varieties. It also conveyed to the co-operators an illustration of the work which is being constantly carried on by the Saskatchewan Wheat Pool organization toward agricultural welfare. Finally, the test was an aid to farmers in the choice of a crop or variety suitable for their own particular area, as well as furnishing reliable data to our professional advisors in Agriculture, upon which they are able to base their recommendations. In this regard it may be mentioned that the Saskatchewan Cereal Variety Committee use the results of these tests with those of the Experimental Stations to formulate recommendations for the different zones. This Committee recently drew up cereal variety recommendations for 1943. These recommendations are now available in published circular from the University Extension Department of Saskatchewan, or your nearest Experiment Station, or the Saskatchewan Department of Agriculture, or the Saskatchewan Wheat Pool, Regina.

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